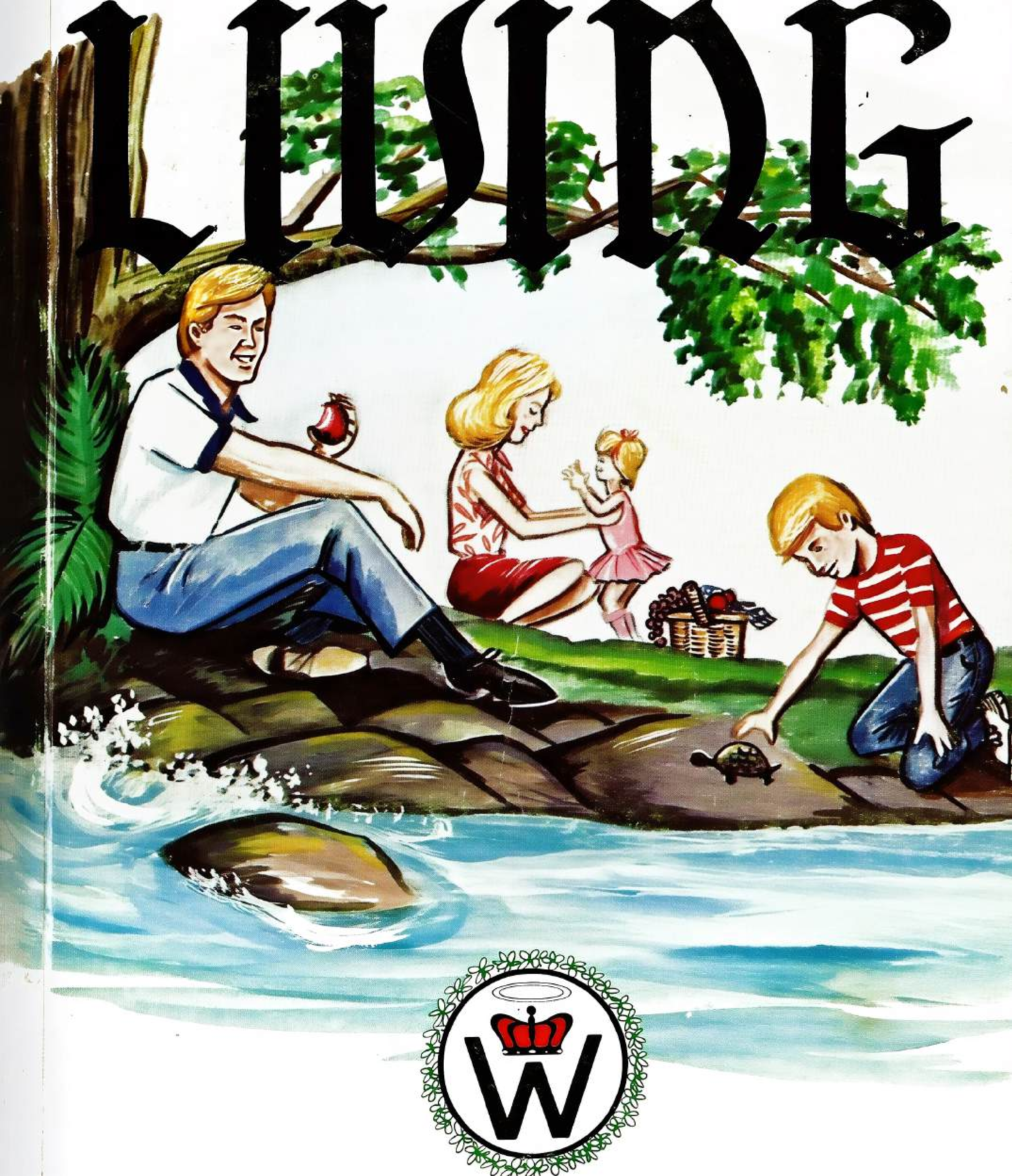
SALUBRIOUS LIVING



A NATURAL LIFE STYLE

FOR ACHIEVING AND MAINTAINING THE ULTIMATE
IN SUPERB HEALTH AND WELL-BEING
AS TAUGHT AND PRACTICED BY

THE CHURCH OF THE CREATOR

Salubrious Living

This book is the third in our program of laying the foundations of our religious creed. It expands upon the health, dietary and genetic concepts of our creed and program. Together with NATURE'S ETERNAL RELIGION and The WHITE MAN'S BIBLE it constitutes the official faith and creed of CREATIVITY as taught and practiced by The Church of the Creator.

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INTRODUCTION

The term "Salubrious Living" is a nomenclature I have coined as part and parcel of a very important facet of our religious creed and program set forth by the CHURCH OF THE CREATOR. The word "salubrious" comes from the Latin word "salubris" meaning "healthy; wholesome; sound; useful; vigorous". Webster's dictionary defines the English derivative "salubrious" as: 1. favorable to, or promoting health or well-being; invigorating; 2. spiritually wholesome; conducive to good results". It is in this context of fully promoting the health and well-being of the White Race that we use this term in its true literal meaning.

We of the CHURCH OF THE CREATOR want to differentiate this term from "Natural Hygiene" popularly used for many decades by health practitioners devoted to this worthy art and science. The two practices are in large part similar, but we prefer to use the term Salubrious Living for two reasons (a) we go one step further than Natural Hygiene and include Eugenics as a vital part of our philosophy and, (b) as I explain in the WHITE MAN'S BIBLE, "Natural Hygiene" is not the best choice of words in describing what this subject is all about. Nevertheless we want to hereby acknowledge a large debt and deep gratitude to the study of Natural Hygiene and its illustrious contributors who, together, have built this most valuable of all health philosophies.

The creed and program of the CHURCH OF THE CREATOR is basically contained in two books. The first of these is NATURE'S ETERNAL RELIGION and the second is THE WHITE MAN'S BIBLE. Basically the thrust of that creed is the survival, expansion and advancement of the White Race and the White Race only. Together these two books comprise the sacred books of CREATIVITY.

NATURE'S ETERNAL RELIGION was first published in 1973. In the second book, The WHITE MAN'S BIBLE (published in 1981) we amplify and expand our creed to further embrace areas such as physical health, mental health, nutrition, fasting, environment and saving our productive soil, subjects not touched on in the first book. Among these subjects in the second book, approximately nine chapters are devoted to the subject of SALUBRIOUS LIVING. These embrace all facets of healthful living, how to regain health and how to keep it once it has been achieved.

These nine chapters also expose the hoax of medicine and drugs, of how the medical profession has set itself up as a semi-religious autocracy, a powerful closed shop which dictates dogma and doctrine; of how with the aid of the government it successfully uses strong-arm methods to keep all others out of its tremendously lucrative racket. All this it does for its own selfish pecuniary interests, its own self-aggrandizement and to the detriment of a long suffering public.

In Salubrious Living we have an altogether different approach to the health problem. In fact, we categorically state that we would have practically no health problems in the first place if we didn't through ignorance and stupidity create these problems ourselves. This we do on the advice and at the instigation of our orthodox medical profession by poisoning ourselves with medicines, drugs and chemicals, all of which are alien to our body and poisonous to our systems. We further exacerbate the problem by bad nutrition--by bad choices of foods, by destroying the nutritional elements in even the good foods, and by imbibing with the crippled foods large quantities of preservatives, additives and other chemicals, all of which are dire poison.

In the nine chapters of The WHITE MAN'S BIBLE on Salubrious Living we compress much of this information into a minimal synopsis, all in the interest of saving space, since we have so much other ground to cover. All we have done basically in The WHITE MAN'S BIBLE is to show which direction to go in, where the real values lie, and what to avoid. In no sense was it to cover the subject comprehensively, because space does not allow. We did promise, however, that we would expand further in another book.

In this book, SALUBRIOUS LIVING, we do just that. We expand on the subject of health in greater detail. It is in complete comformity with the briefer chapters in The WHITE MAN'S BIBLE but it does not diverge into the many other vital subjects as we do in the former book.

Outside of this introduction and the final chapter on Eugenics, both of which were written by myself, the entire balance of the text has been written by Arnold DeVries, who compiled the study in an excellent book entitled "The Fountain of Youth". It is so logical, so comprehensive, and being entirely based on the Eternal Laws of Nature, we embrace it as part of our own program of A Sound Mind in a Sound Body in a Sound Society in a Sound Environment.

In order to define our program of Salubrious Living we again review the 14 basic points as set forth in The WHITE MAN'S BIBLE. These 14 are:

1. *We believe in living in accord with our human biological heritage and in harmony with the Laws of Nature.*
2. *This means eating fresh wholesome food in its natural state as Nature has given it to us. It must be uncooked, unprocessed, unpreserved and not tampered with in any other way. This further means it must be organically grown, without the use of chemicals.*
3. *Availing ourselves of a clean, wholesome environment; fresh, unpolluted air; clean water; and the beneficial therapy from the direct rays of the sun, every day.*
4. *Some form of strenuous physical exercise several times a week.*
5. *Rest and relaxation, both mental and physical, including sound and efficient sleep.*
6. *A form of recreation that is gratifying to our sense of accomplishment.*
7. *A sense of purpose, security and confidence to fuel our goals for accomplishment and living the good life. We must have goals and we must be motivated.*
8. *Deliberate self-mastery of our lives and our work.*
9. *Gregarious living within the framework of our CREATIVE religion, our White society and social intercourse with our White Racial Comrades. We are social animals.*
10. *Healthy expression of our sexual instincts.*
11. *Living in a pleasing and healthful environment.*
12. *We do not believe in the use of any "medicines", drugs or chemicals as having any healing or therapeutic value. In fact, all medicines, drugs, narcotics, and chemicals are poisonous and toxic to the human body. Furthermore, and for the same reason, we do not believe in the use of vitamin, mineral, or enzymesupplements, nor the use of artificial food coloring, preservatives, nor refined or fragmented foods.*
13. *We strongly believe in THE PRACTICE OF FASTING as the best means of ridding he body of accumulated poisons and toxins. We are convinced that fasting is the most natural and effective means the body has of overcoming all forms of disease, and restoring itself back to health.*
14. *Living in, and promoting a eugenic White society. This means that we take particular care in not only assuring the perpetuation of our precious White Race, but we take*

deliberate care that the misfits are culled and that each generation advances to higher and more salubrious levels, physically, aesthetically and mentally.

Since DeVries was not racially minded and since we believe that Eugenics (that is, Racial Health) must be an integral part of any health program (as stipulated in Point 14) I have included additional material on the subject of Eugenics as the concluding chapter of this book.

Thus we believe that all these four components: A Sound Mind, A Sound Body, A Sound Society and a Sound Environment are part and parcel of a complete whole and vitally necessary for living the Salubrious Life.

In CREATIVITY, as our religion is known, we therefore embrace the entire spectrum of living. We believe that you cannot have a healthy mind or a healthy body, or a healthy race or a healthy society if any vital part of the whole structure is ailing. That is why we called ours a FOUR DIMENSIONAL RELIGION—in which we set about to put in healthy order all aspects of what is necessary for the survival, expansion and advancement of the White Race—the most precious value on the face of this planet.

Ben Klassen, Pontifex Maximus
Founder, Church of the Creator
September, 1981

THE FOUNTAIN OF YOUTH

By Arnold De Vries

CHAPTER 1

The Search for Youth

DREAM BECOMES REALITY

Throughout the world youthfulness is the standard sought by almost all. It offers charm, beauty, health and happiness to those who have it. It is always searching for new sensations, new visions, new adventure, new romance, new thoughts and new ideas. Youth charms the world with its impetuous, carefree attitude and welcomes the exquisite temptations of life. It searches for change and laughs at failures. It is associated with the highest physical vitality and mental enthusiasm. Indeed, youth is the visible symbol of the joy of existence. It stands on a pedestal above all else.

With the departure of youth comes the tragedy of senility. As our tissues become old we lose our vitality. We meet the ravages of degenerative disease and see our beauty slowly fade. The eyes lose their sparkle, the skin commences to wrinkle, the hair turns grey or falls out, the teeth decay, the limbs become weak and we degenerate into hideous puppets of our former selves. Nor does the mind escape. We lose our enthusiasm for life. Our mental processes are dulled. We can no longer think clearly. We crawl into the rut of conventionality and avoid change. We worry and fret over our failures and forget what happiness is. Life loses its meaning. Instead of remaining an opportunity for gaining new pleasures it becomes a boring episode which is haunted by the memories of days gone by.

The glory of youth and the tragedy of old age have always been recognized by humans. The innate desire for radiant youth has always reigned supreme. Everyone holds his youth to be worth the highest price; we are all thrilled by the feeling of youth. No one would give it up for any compensation, and once it is past, nearly all would give practically anything to have it back. It is the one thing we all cherish if we still have it, or desire if we do not have it. If you are young there is nothing you would trade for your youth; if you are old there is probably nothing you would not give in order to be young again.

The desire for youthfulness has always been associated with the enchanting dream of the fountain of youth. It has always been hoped that someday someone would find the elixir of youth and life. Down through the ages men have searched far and wide—in the soil of the earth, through the plant kingdom and in the tissues of animals—in the hope of finding a mysterious substance which will provide the blissful condition of continuous youth to the day of death. The famed Ponce de Leon sailed the Atlantic to the New World to find the fabled fountain of youth. However, he, like the alchemists and sorcerers who preceded him (though along different lines), failed. To the world in general the fountain of youth still remains a myth and a dream, an idea with little basis in reality.

People have by now lost all expectation of discovering a method of preserving their youth into advanced age. Surely if there were any method of doing this someone would have discovered it by this time. Why attempt the impossible? After all, no one has ever preserved his youth indefinitely—at least we have not seen anyone do it. Of some two billion people on the earth all seem to suffer from the ravages of old age. Is it not a law of Nature that all forms of animal life must become senile as they enter into advanced years?

Such is the conventional reasoning. At first it may seem logical and reasonable, but upon closer examination we find it to be highly inaccurate and unscientific. Contrary to popular belief, senility is not the general rule throughout Nature. In fact, some animals do not appear to age at all. The giant water-tortoises of the island of Mauritius present the same general appearance and vitality at the age of 150 years as they did in their youth. One of man's closest relatives, the chimpanzee, while living in its native haunts of Africa, fails to display any signs of senility in its advanced years. As a general rule, most animals in their wild state change a little as time goes by but never to the extent that humans do. They are usually healthy and strong in their advanced years. If you were to visit the forest you would not find all the old animals weak, decrepit and almost helpless. On the contrary, you probably would not be able to distinguish the old from the young. And then if you examined these animals you would find little or no physiological difference between their tissues and those of the younger animals. Moreover, if you were to go to the isolated regions of the earth you would find primitive races which preserve their youth far longer than civilized people.

You will find that they escape entirely many of the usual symptoms of senility.

No, senility is not inevitable. The fountain of youth, which has long been considered a myth, now gains the atmosphere of reality. It becomes increasingly apparent that strength and health may be associated with old age. Symptoms of decrepitude and feebleness, far from being the inevitable counterparts of advanced life, are altogether unnecessary. Youth can be preserved remarkably well with proper life practices; any changes which occur with time need not be great nor anything nearly as debilitating as we witness.

In the world today we find that decrepitude and "civilization" go hand in hand. In pure Nature youth is preserved nearly until death. Obviously there must be some factor or factors in our modern life which create senility. Not that there is anything wrong with civilization in itself. Our aim should always be to build a higher state of civilization, but that factor should not be permitted to deny us the beneficence of youth we would appreciate in Nature. Indeed, in civilization those causes of poor health and hastened senility should be searched out and eradicated.

Youth and health go hand in hand. That is, it is only in a state of physiological youth that health is possible. One who is senile cannot be healthy. In preserving your youth you also gain the opportunity to acquire good health and freedom from disease. And conversely, it is only by preserving your health that you can preserve your youth. The struggle for health is similar to the struggle for youth and is carried out along the same lines. As you strive for the one you'll also be striving for the other. As you realize the one you'll also realize the other.

Youth and health, being the most important things that exist, being virtually priceless, should receive the most careful study and attention; but medical "science" studies disease, not health, and is not interested in the conditions which favor perfect health. Nor does the medical scientist consider the preservation of youth to be worthy of serious research. However, youth and health have not been neglected entirely. The development of the Hygienic system in America has provided us with a science of living which is concerned with building health to the highest possible level, thereby reducing disease and senility to the lowest possible minimum.

This book tells the story of the Hygienic System.

Associated with this story is that of the other fields of science which are concerned with health and disease, for the Hygienic System is fundamentally related to the search for unceasing health. Furthermore, you must recognize the failure of conventional approaches before you can realize the importance of the search for the more efficient ways of restoring and maintaining high level health. Only by gaining a clear picture of the nature of disease and the accepted forms of treatment can you visualize the role which Natural Hygiene is to play in a world that is healthy and youthful.

This story is not just a discussion of what is already known. It points out the road of new research which may enable us to learn more of the causes of old age and disease. It provides for us, along with an indication of what it might be well for us to study and investigate in the future. Opinions have been eliminated as much as possible—this is the verdict of science.

CHAPTER 2

The Myth of Medical Progress

Surveying History's Number One Failure

Of all the fields which deal with the elimination of disease, medical "science" enjoys a near monopoly. It has gained the widest acceptance and holds a foremost position throughout the world. Not only is it one of the oldest of all practices, it has also had the bulk of funding for research. Accordingly it should have made great progress—at least far more than its minuscule rivals.

That medical "science" has been highly successful is the opinion of most people. It has supposedly lowered man's suffering from diseases, found remedies for many chronic diseases and found means of preventing many others. Likewise, the claim is made that medicine is responsible for the increased life span in recent years. Generally speaking, medical progress is, in the public mind, an established fact.

The real picture is a far departure from that which has won public acceptance. It fails to show that medicine has indeed raised the standard of public health. It questions all medical methods and the value of thousands of years of medical practice. Further, it reveals that medical practice has been accepted largely upon blind faith, that there is no real evidence of its viability.

There is available a large array of facts which justify this reluctance to give credit to medicine. Perhaps the outstanding examples of its failures are found right here in the United States. It is this nation which has the most extensive medical service, the most physicians and the most hospitals. If medicine is capable of producing good results anywhere it should have done so here. But a few careful observations show that it has failed in its purpose.

The most frequently mentioned victory of medical practice has resulted from its fight against the so-called infectious diseases. Statistics show quite clearly that we have fewer of these diseases than formerly, but for this, medicine can be given no credit. Medical efforts to prevent these diseases have taken the form of serum and vaccine injections; however, a study of disease rates fails to indicate that the rate of so-called infectious disease is lowered when these injections are given. In fact, in some cases the disease rate climbs as the use of serums and vaccines increases. There is obviously a distinct cause, existing apart from medical practice, that is responsible for the reduced disease rate. This may be in the form of improved dietary habits or some other change in the American way of living. Of one thing we may be sure; the so-called victory of medicine against these diseases has never had any real existence.

The prevalence of degenerative disease in America today, and its rate of increase in the last fifty years, is something that is not common knowledge. The public has not been given the real facts. There has been no victory against the most common degenerative diseases such as heart trouble, arthritis, rheumatism, hardening of the arteries, cancer, diabetes,etc. Although it is not generally admitted, these diseases are far more common today than ever before. In the last fifty years insanity has increased 400 per cent; epilepsy, 300 per cent; anemia, 300 per cent; diabetes, 1800 per cent; and cancer, 308 per cent. This steady increase is continuing year after year in spite of the most extensive medical service, which includes the work of 145,000 doctors, 280,000 nurses, and 60,000 pharmacists. Or perhaps it should be said that it is occurring because of this service, for the rate of increase has been in proportion to the increase in the employment of drugs, serums and vaccines to prevent or suppress the acute disease.

The physical examinations of 22,000,000 men between the ages of eighteen and forty-five in World War II have likewise revealed the failure of medicine. Of these, 11,000,000 or fully 50 per cent, were rejected for physical reasons. This was a much higher percentage of rejects than occurred in the draft of World War I. The percentage of nervous debility cases had doubled since 1917, and the amount of tooth decay had increased fourfold. Nearly one-third of all rejects suffered from a lack of mental health. It is noteworthy that it was the prime of American manhood which was examined by the army. If the condition of the youth and middle-aged groups of America is so poor, that of the older groups must be indeed deplorable. The late World War, contrary to the popular opinion, did not demostrate increased medical efficiency. Rather, it was just one more demonstration of the failures of medical practice.

Dr. Parran, Surgeon General of the United States Public Health Service, studied 2,660,000 persons, representing every age group and economic level—a cross section of our population—and made records of the health status of this group. Assuming that it was fairly representative of the American population, he concluded that on every day, one out of twenty people is too sick to attend school, go to work or attend to customary duties; that on the average, every man, woman and child in America suffers from ten days incapacity each year; that the average youngster is bedridden with illness seven days each year, the average oldster thirty-five days each year; that 6,000,000 people are sick each day, and 42 per cent of these suffer from hardening of the arteries, heart disease, rheumatism and nervous diseases; that 500,000 people are blind, 65,000 are totally deaf; 75,000 more are deaf-mutes, and 1,000,000 are permanent cripples. These are the health statistics of a sick people, of a nation which suffers proportionately from far more disease than the lowest primitive races who have never seen a hospital or acquainted themselves with medical "science." Dr. Parran places a large part of the blame for the health problems of Americans on poor housing, hazards of occupation and instability of the labor market. But these are only secondary causes. Medical practice must take the real blame. With almost unlimited resources at its disposal, it has failed to provide a high standard of public health.

The high percentage of disease among children is seldom realized. The United States Board of Education has stated that 400,000 children in America suffer from organic disease; 1,000,000 are afflicted with the various forms of tuberculosis; 10,000,000 possess enlarged lymphatic glands; 1,000,000 have spinal curvatures; 4,000,000 suffer from malnutrition; 10,000,000 have imperfect teeth and 15,000,000 present physical defects of one kind or another. When Dr. Alexander T. MacNichol, of New York, examined 10,000 school children of that city he found that 35 per cent suffered from heart derangement; 15 per cent had some nervous disorder; 60 per cent had anemia; 27 per cent had tuberculosis, and 20 per cent suffered from spinal defects. He concluded that if all of the children so suffering had been removed from schools, two-thirds of the New York schools would have had to close. Statistics show that in Cleveland, Ohio, 981,000 children have recognizable physical defects. In Washington, D. C., fully 90 percent of the children, at the time they enter school, show similar defects. In Chicago, examinations of school children showed that 86,000 had defects of the teeth and palate; 10,000 suffered from anemia; 10,000 possessed enlarged lymphatic glands; 25,000 had impaired vision; 6,000 were afflicted with pulmonary disease; 4,000 had skin diseases; and 1,000 to 2,000 had nervous diseases. One would have to search a long time among primitive races to find even a single group with a health record such as this. We are a nation of weaklings and physiological cripples. Even the young children, who should present the best physical condition, suffer from one disease after another. The healthy child, free from all disease, is almost unknown.

Medical authorities have proudly pointed to the recent increase in the span of human life. This is said to be an excellent example of medical progress. We live a good deal longer than our ancestors did; there is no doubt about that. But this increase in the length of life has had nothing to do with medicine. Rather, it occurred in spite of medicine. Today the average human, aged 35 years, can expect to live only slightly longer than his grandfather, who, at the same age, could have expected to live. The life expectancy has increased hardly at all for the middle-aged person. The drop in the rate of infant mortality has been almost solely reponsible for the increased life span. Formerly, infants were cared for in a manner that was in every way conducive to high mortality rates. Today their care is still bad but is has improved much, especially in regard to diet. The increased use of fruit juices and vegetables for infants has perhaps done more than anything else to lower infant mortality and thus prolong the average life span. However, it was certainly not medicine which recommended the changed diet for infants. At first medical "science" condemned fruits and vegetables as being dangerous to health. Then, when the use of these foods had become established, medical authorities dropped their objections, acknowledged that fruits and vegetables should be used in the infant's diet and took credit for inaugurating the change! Associated with the continued degeneration of the American people is the increasing percentage of facial deformities. Studies of primitive races indicate that a lack of beauty, especially facial beauty, should be considered a disease which may always be prevented by building the health of the parents to a high level. This insures the birth of infants with normal facial structure. Among civilized races, facial deformities are chiefly deformed dental arches, pinched nostrils and defective jaw structure. Today it is doubtful that over 5 per cent of the American people have approached the normal high standard of beauty which is characteristic of the healthy members of every race.

Medical "science" has done virtually nothing to decrease the "need" for surgical operations. In fact, conditions which are claimed to require surgery are becoming more common than ever, and the use of surgery has increased many times since the beginning of this century. In fact its increase has been in direct proportion with the increase of surgeons. Rare indeed is the person who has not had some sort of operation. Operations for the removal of the tonsils and appendix have increased at the most rapid rate. And the indications for the future hold no note of optimism. It is claimed the need for surgery will increase.

Not only has medical "science" failed in its efforts to prevent disease; it has been equally unsuccessful in its attempt to eliminate disease, once it comes to exist. Statistics show that more patients recover from acute ailments with no medical care than with the most expensive medical care. This indicates that "medical care" is a bane, not a boon. The death rate during the influenza epidemic of World War I was very high for those patients who underwent medical treatment, but it was practically nil for those in whom the affection ran its course. The death rate in cases of appendicitis is several times as high when there is an immediate operation as when the operation is forgone. Moreover, later complications upon those who have had this depurating organ removed indicates it extremely unwise to remove the appendix. The absence of treatment provides better results than medical treatment which is usually hurtful.

There is no evidence to indicate that there is less disease today than there was a thousand years ago. There is no evidence to indicate that modern medical methods of treating most of the diseases are any more effective than those of the sorcerers of the dark ages or the witch doctors of primitive tribes. There is no evidence to indicate that we live longer than did the ancient Greeks or as long as many primitive races of today. All studies show that we in America, with all our physicians and great hospitals, suffer from far more disease than do the races in the most backward regions of the earth. We are retrogressing, not progressing. Medical progress is only a figment of the imagination.

In the final analysis, everything must be judged by the results it provides. If it works and produces the desired results,it is of value, but if it does not do this it need be of little concern to society. This may be applied to medicine. It has not produced the desired results. Its record is one of continuous failure. The object in this case should be to turn to something constructive. By doing so we have nothing to lose except our sicknesses. We have good health to gain.

This does not mean that we must reject everything that has come from medical practice. But it does mean that we must reject the great preponderance of its practices. Drugs may be discarded entirely; at least 99% of all surgical work may be dispensed with as harmful. The remainder, employed chiefly in cases of wounds and accidents, will perhaps be our only relic of the age of medicine.

In the absence of seeking out physicians, our populace, if they should unwisely bring illness upon themselves, will resort to Natural remedies as do animals. Primarily this means a resort to fasting when feeling out of sorts. Perhaps a method of body care that does not cause disease will come into general vogue.

CHAPTER 3

The Hygienic System

Origin and Development of the Only Scientific Health System

Having seen the deficiencies of medical "science" we may start our search through "drugless medicine" with its "irregular" schools of healing. This takes us to chiropractic, osteopathy, naturopathy, Christian Science, physical medicine and others. These are the best known non-medical schools engaged in caring for the sick. They are indeed a source of competition for the hard pressed medical profession.

Our observations of these schools offer little hope for optimism. In virtually every case we find failure rather than success. With rare exceptions we see patients going steadily downhill in spite of the most extensive treatment. We find in osteopathy a system of massage and manipulation which treats only the end-points of disease and thus fails to remove cause. Chiropractic has a similar basis, except that its manipulation is confined to the spine. The chiropractors have never bothered to explain why spinal subluxations exist in the absence of disease and why disease is frequently present in the absence of these subluxations. They have never been able to correlate cause with effect, and the failures of their practice are to be expected in view of this fact. Naturopathy is also based upon drugless palliation. The naturopath has taken a few methods of treating symptoms from each of these other schools and combined them with electricity, artificial fever, colonic irrigation and hydrotherapy, thus forming a system of therapeutic follies. Physical medicine is simply naturopathy under a new name with more reputable backing. Christian Science is a system of therapeutic abstractions which are based upon methaphysics rather than science. The "health food" industry, starting in the late twenties as an attempt to supply the public with unrefined foods, has evolved into a "healing school" with its numerous lecturers and so-called diet experts giving advice on the care and treatment of virtually all well known diseases. The cure-alls in this case are vitamins and mineral tablets, capsules and concentrates—all proven failures as a means of establishing health or eradicating disease.

In rare cases, perhaps in 1 to 2 per cent of those in which it is employed, manipulative therapy, especially when applied to the spine, may be of some value. Barring this exception, we may reject the general field of drugless medicine as being ineffectual and impossible of being practical. It has merely added to the confusion which medicine started. It has acquired limited popularity only because the orthodox profession has failed. As a substitute for medicine it is unacceptable, for it has simply replaced one form of symptom-shooting with others. The underlying causes of disease are left intact; indeed, they have not even been searched for. These things being true, the failures of drugless medicine should not surprise us; they should be expected.

The picture is not as dark as it might seem, however. Fortunately, there exists a system which has been found very efficient as a means of overcoming disease, of restoring and maintaining health. It is distinguished from the schools of medicine, chiropractic, osteopathy and other sects and systems in both theory and practice. It is concerned with removing the causes of disease, whereas others are content to treat the end-points of disease. In this sense it belongs in a class by itself. It is diametrically opposed to all other schools of healing.

This unusual science of healing is known as the Hygienic System. It was developed a little more than a century ago in the United States by Isaac Jennings, M.D., Russell Thacker Trall, M.D., and Sylvester Graham. These three men presented their new concepts of health and disease in a wide array of publications. These include: *Medical Reform, Philosophy of Human Life and of Tree Life, or Human Degeneracy, Its Nature and Remedy, is Based on the Elevating Principles of Orthopathy*, By Dr. Jennings; *The Hygienic System, Hydropathic Encyclopedia, the Hygienic Handbook, Sexual Physiology, Popular Physiology, Hydropathy for the People, Mother's Hygienic Handbook, Scientific Basis of Vegatarianism, Digestion and Dyspepsia, Diseases of the Throat and Lungs, The Alcoholic Controversy, Hydropathic Cookbook, Illustrated Family Gymnasium and others* by Dr. Trall; and *Health from Diet and Exercise, Nature's Own Book and Lectures on the Science of Human Life* by Sylvester Graham. These publications were the foundations of early hygienic practice. They also provided a basis for the future development of the Hygienic System.

After the death of Jennings, Trall and Graham, others took up the cause and development of the Hygienic System. They established a number of sanatoriums through America where they carried on the work of applying the hygienic methods in the treatment of the disease. The knowledge gained from this experience formed the basis for a new array of publications which were released intermittently up to the present day. The subjects treated reflect the progress of the expanding school of the Hygienic System. Included among these sequelae are: *How to Treat the Sick Without Drugs, Hygienic Medication or Science Versus Speculation* and *Nature's Method of Curing the Sick* by James C. Jackson, M.D.; *The Nutritive Cure, Hygienic Hydropathy, Exact Science of Health, Life's Great Law, Philosophy of Health Reform, A Defense of Hygienic Treatment, How Sick People are Cured,* and *Drug Medicines as Causes of Disease* by Robert Walter, M.D.; *The Bible of Nature, Body and Mind, Physical Education,* and *Fasting, Hydrotherapy and Exercise,* by Felix L. Oswald; *Paralysis and Other Affections of the Nerves,* and *An Exposition of the Swedish Movement Cure* by George H. Taylor; *Life and Health or the Laws and Means of Physical Culture* by William A. Alcott, M.D.; *Drugless Medicine* by Sussana W. Dodds, M.D.;*The Natural Cure* by Charles E. Page; *How Nature Cures* and *Natural Cure of Consumption* by Emmet Densmore; *The No-Breakfast and Fasting Cure* and *The True Science of Living* by Edward Hooker Dewey, M.D.; *The Genesis and Control of Disease* by George S. Weger, M.D.; *Criticism of the Practice of Medicine, Impaired Health,* and *Toxemia Explained* by John H. Tilden, M.D.; and *The Hygienic System* (seven volumes) by Herbert M. Shelton. These works, only a fraction of those which have been published, have exerted a great influence in developing the Hygienic System to its present one as an eminent science of life. Most of these publications are now out of print; and of the authors, only Herbert M. Shelton is still living.

Though the Hygienic System originated well over a century ago, it has taken until now for it to develop into its position as a truly scientific way of life. In its modern phase it is the product of the accumulated knowledge acquired by hygienists throughout the last century. It was never discovered as such, but simply developed year by year through continued experience and observation. The Hygienic System of the nineteenth century was obviously not as efficacious as that of today. It had the same basic premises but its practical application had yet to be perfected. In fact, it can still be improved. However, we have gone most of the way. Splendid health, both in youth and into extended old age, is now possible. The Hygienic System has scored a major victory in bringing the world a true science.

Since the time of Jennings, Trall and Graham the Hygienic System has been the victim of many attacks. Its exponents have always been called faddists and quacks. Many of them have served prison sentences and have been heavily fined for employing the hygienic methods in the treatment of disease. Others have been mobbed while making lectures. The uprisings were usually inspired by commercial enterprises which saw in the Hygienic System a danger to their vested interests.

Medical "science has been particularly active in fighting this science of healing. It has always referred to hygienists as quacks, and has frequently prevented them from practicing. However, it has never made any official investigations to determine the results of hygienic practice. Medical practice saw in the Hygienic System, as did other commercial enterprises, a danger to its financial interests. This has no doubt been partly responsible for its antagonistic attitude. Had hygienic practice been commercially profitable, it might have been absorbed into medical practice.

There are no hygienic practitioners who have been trained as such. The only hygienists are medical or drugless physicians who have dropped the practices of their profession and taken up those of the Hygienic System. Dr. Trall established the only college which trained students to be hygienists, and it lasted only a short time. It did not established the Hygienic System as a profession, but rather conferred the degree M.D., upon graduation. As a legalized profession the Hygienic System has never had any real existence. The hygienist has always had to practice under the guise of medicine, chiropractic, or some other "healing art."

This state of affairs is undesirable because it limits the number of hygienists to a very small figure. However, it does not prevent the majority of people from making a practical application of the Hygienic System. This science of health differs from all others in the sense that its employment usually does not require professional supervision. Its simplicity and safety make it an effective tool in the hands of the layman. A professional status would be valuable chiefly for research and educational purposes. Once the knowledge of the Hygienic System became widespread it would (with rare exceptions) be self-applied. The present need for a large number of professional hygienists would then disappear. The profession would remain, but only on a very small scale.

The Hygienic System exerts no more influence today than it did a century ago. In fact, its present position is that of near oblivion. This is no reflection on its value, however. The reaction time of important discoveries often extends into hundreds of years. Custom and tradition are too strong to permit the immediate practical application of the Hygienic System on a nationwide scale. Even an investigation at the present time is too much to hope for.

The hygienic literature of the last century (only a part of which has been mentioned here) is not the last word in science. It is not entirely free from the preconceived judgment which has contaminated the greater portion of all preserved writings. This is freely admitted. Nevertheless, if we take from this literature only the facts which are based upon experiment, experience and observation, and combine these with the knowledge coming from other sources, we will possess a health science of unquestioned value. We may then have the Hygienic System in its pure, unstained form, free from the eternal truths of philosophic reasoning, and based on the proven facts of modern science.

It is the purpose on the following pages to describe in detail all the phases of the Hygienic System. These are described in their logical order, which, if followed, permit the most thorough understanding. The Hygienic System, as hereinafter described, is not just another healing art; it is the only true science of healing, the only hope the sick may have.

CHAPTER 4

The Nature of Disease

How The Body Heals Itself

From the earliest of times humans have had various misconceptions as to the cause and nature of disease. But always humans have believed that disease consisted of an entity that "invaded" or "attacked" the body. Always humans have regarded disease as some sort of evil entity preying upon them. They have never known just how disease attacks the body; they have just assumed that to be the case. Primitive humans thought that perhaps the evil force was in the form of spirits. Modern humans attribute the evil force to germs and/or viruses. But both concepts are essentially the same. They are founded on the idea that disease is "wrong action" and hence must be driven out of the body. This concept unleashed a war against the "invading enemy" that ever consumes greater and greater human resources.

With the birth of the Hygienic System there arose a new view of disease, one that was radically divergent from those which preceded it. This view considers disease to be an intrinsic body force which develops because there is a need for it. Those who formulated this outlook did not speak of disease as attacking the body. They did not speak of the supposed need of ousting an invading enemy. They did not, as did the medical practitioners of the time, speak of vanquishing evil spirits that had unjustly attacked a person. Rather, the Hygienists regarded disease as essential to the body action that is contructive and helpful. To the hygienist, disease is "right action" developed by the body itself in the best interest of human functions. Therefore the action was to be cooperated with rather than warred upon.

When Dr. Jennings first gave this new conception it was greeted with much skepticism and condemnation by medical and drugless physicians alike. However, when the practice based upon the concept proved so thoroughly successful; when this new practice gained a record of efficiency not even hoped for by the schools of "curing", the skepticism and condemnation, at least among *some* physicians, disappeared. For they joined in its practice. Thus a true hygienic movement was born. The former theories of "wrong action" became demonstrably erroneous. As a hypothesis and doctrine the "evil force" concept lost much ground. The Hygienic reforms thus instituted caused the norm of health to spurt ahead.

Hygienists have called the "right action" of disease "orthopathy" or correct action. The word first coined by Dr. Isaac Jennings to express his observation that "Nature is always upright—moving in the right direction." Orthopathy is the governing principle of all pathological conditions. It governs the trend which the physiological activities of the body take. This action invariably creates disease when there is need for it. It holds that disease is restorative and healing action, not a malevolent force.

TOXEMIA

It is not, as one might first suppose, bacteria or viruses which create the need for disease. These may exist concomitantly with the disease, but are never causes. Disease in general is based upon impairing morbific burdens and nutrient deficiencies.

The concept of the body throwing off toxic burdens or morbic material was called Toxemia. Toxins are materials which, when found in the body in sufficient amounts, obstruct body functions and thus impair health. They are synonymous with poisons, waste matter or any other destructive or congesting material. Toxins vary in the degree of harm they produce. Some may be harmless when found in small quantities for they are the normal body waste output. But if retained they constipate and obstruct. Other toxins may be more virulent and produce death if found even in trace amounts. Toxemia is the presence of sufficient toxic matters in the blood and tissue to interfere with the functioning power of any part of the body. The body-instituted crisis to eliminate this toxic burden is called disease.

There is a certain quantity of toxins in the body at all times, even during an optimum state of health. The activity of cells, which includes the assimilation of food as well as their metabolic actions, and the constant building and destruction of new cells is productive of wastes which are toxic if not eliminated. Under normal conditions, when the mode of living is proper and elimination is efficient and sufficient, the toxic wastes of cellular activity do not collect in amounts sufficient to interfere with body functions. But if elimination is checked then toxic wastes collect in such amounts as to impair body functions. It is then that the body initiates the crisis born of toxemia. This is what

Hygienists called disease.

The end products of metabolism are considered the chief sources of toxemia, though there are other sources which also deserve mention. One of these is the excessive decomposition of foods due to fermentation and putrefaction in the intestinal tract. This decomposition always produces toxins when unsuitable foods or unphysiologic combinations of foods are eaten. Under adverse conditions, including the presence of highly fermentable and putrescible foods, the intestinal tract becomes a seething cesspool of toxic materials.

Then, too, toxins are ingested into the body in forms of drugs, serums, vaccines, impure air and food, etc. Medical treatment is often a major source of toxins. Modern foods often contain toxic substances. The body may eliminate them before they do harm or they may be absorbed by the blood and interfere with normal body activities. Thus the body may be overwhelmed by toxic loads which thus become a source for disease. Also it must be noted that toxins from impure air enter the lungs and are taken up by the blood and add to the toxic burden.

Organic toxemia is given much attention by some hygienists but it is always secondary to the toxemia which originates from faulty elimination of the waste products of metabolism, the excessive decomposition of foods in the digestive tract, and the ingestion of toxic matters. Organs which have become overburdened with toxic matters cannot function and thus cause the body to institute a crisis. The resulting emergency action of the body to purge the affected organ results in "feverish activity." This extraordinary attention to an affected organ is called organic toxemia, actually a little used term. We know of the crisis as an "itis" or an "infection." A toxic crisis is the basis for what we call disease.

Closely related to toxemia is enervation (lowered nerve force also known as nervous exhaustion). If elimination is to function effectively there must be an adequate supply of nerve force. When nerve force is lowered, the eliminative powers are also lowered. This in turn puts the body behind in its housekeeping chores. Toxic accumulation thus results which again causes a further reduction in nerve energy. The result is a vicious cycle in which toxic matters progressively accumulate until a state of toxemia exists—a crisis point in which the body disables itself and devotes all its remaining fund of energy to the elimination of the impairing toxic load.

NUTRIENT DEFICIENCIES

Vitamin and mineral deficiencies are also closely related to toxemia. A diet containing all the essential elements of nutrition is necessary if the nerves are to be properly fed and function at a high level. Without sufficient amount of needed nutrients, body functions are impaired for want of them, thus giving rise to enervation and toxemia. The body cells cannot adequately dispose of the end products of metabolism if they are not given an adequate supply of nutritive components. If they are malnourished, they become enfeebled and permit end products of their metabolism to be retained. That toxemia occurs during such an event is best known by the fact that the so-called deficiency diseases, including anemia and tooth decay recover far more quickly on a fast than when a proper diet is instituted. The deficiencies obviously do not directly produce the disease. They are instrumental in producing the conditions that permit toxic burdens to accumulate which do produce the disease. The fast enables the body to eliminate the toxic accumulation and repair affected cells and tissues through assimilation of stored vitamins and minerals. Thus we see recovery through fasting even in "deficiency" diseases.

This does not mean that every vitamin and mineral deficiency is associated with toxemia, or that these deficiencies never produce disease of themselves independent of the toxins. There are no doubt some conditions which are, strictly speaking, deficiency diseases. In fact, undernutrition of cells must be ranked second only to toxemia as a cause of disease. This combination, toxemia and cellular deprivation, is all-important. There are few, if any, pathological conditions which are not based primarily upon it. The body is a vast chemical laboratory. When it contains a minimum of the toxic elements and maximum amounts of the needed nutrient elements, it is in perfect physiologic balance. As the toxins increase and the nutrient elements either decrease or fail of assimilation, there is an imbalance that tends toward disease.

Laboratory experiments substantiate this viewpoint in full. Tissue, when cultivated and grown in a flask, lives indefinitely with no signs of disease or old age if only two requirements are met. These consist of an adequate supply of nutritive material at all times and a renewal, at periodic intervals, of the fluid in which the tissue is bathed. The removal of old fluids removes toxic wastes, thus preventing their accumulation. As soon as the old fluid becomes laden with toxins, resulting from the tissue metabolism, it is removed and a new supply of clean fluid is provided. Under such conditions the animal tissue thus kept alive is potentially inmortal. It never ages, becomes diseased or dies. Of course this cannot entirely be applied to the tissue of the living human body. We are not immortal beings. However, our tissue does react much the same way when forming a part of the living body as when cultivated in the flask. It becomes unhealthy only when nutritional deficiencies of toxemia are present. Likewise, its rate of aging depends chiefly upon these factors.

DISEASE – A NEEDED FRIEND

It is not toxemia and nutritional deficiencies in themselves which constitute disease. Rather, it is the attempt of the body to correct these conditions, or, if this is impossible, to adapt to them that is called disease. The first is usually the case in acute disease; the last is often the case in chronic disease. Acute illness is essentially a progress of toxic elimination. As the toxins are eliminated, assimilation is improved. The elements of foods are utilized more effectively as the body becomes freed from its toxic overload. Along with this increased freedom from toxic materials is a general restorative process. The body attempts to restore body functions to normal when the impairing factors are eliminated. The disease is always a body crisis and is directed in the best interests of itself.

Inflammation is typical in most disease. It occurs in those tissues which are irritated by accumulated toxic material. Inflammation is fundamentally a part of the eliminative procedure. It is a violent attempt by the tissue to eliminate the toxins which are interfering with the normal activities. "Itis" means inflammation. Thus appendicitis is inflammation of the appendix; tonsillitis is inflammation of the tonsils; bronchitis is inflammation of the bronchial tubes; peritonitis is inflammation of the peritoneum, and colitis is inflammation of the colon. The "itis" is simply the suffix which is attached to the name of an organ to indicate that it is inflamed—actually engorged with blood and fluids in a feverish effort to remove toxic burdens.

Fever as a general body condition is likewise of a constructive nature. It arises because there is a definite need for it. It is an attempt by the body to eliminate toxins and restore functions to normal. Fever does not have to be fought or suppressed. It is a saving friend, not a foe. Endure it, dear reader, for it is your body's right action to overcome the results of your wrong actions.

Disease is man's best friend—never its enemy. It arises to help the body to restore normalcy. Disease is not as imagined, the attack of some evil forces. Disease is a corrective process which should not be interfered with. It needs no "cure" for it is "curative." It should not be suppressed for that is like hitting a drowning man in the head with the idea this will help him. Disease does not have to be fought with all sorts of drugs and medicines. These are actually a war upon the body's vital forces, not the toxic load that caused the crisis. The body needs to be left alone. It is capable of carrying on its own work and we should not interfere. In fact any interference is ignorant folly.

It is here that we see the folly of medical "science." It is here that you can understand why medicine is doomed to failure. It tries to destroy disease; it tries to suppress vital body actions rather than to remove the need for such emergency actions. It does not search for causes; it leaves them intact and merely reduces body vitality such that it can no longer conduct the purification process. The symptoms thus disappear. The medical physician destroys the very process which is helping the body.

It may be well-nigh impossible to "cure" one disease (in the medical sense) without creating a worse one. For instance, let us suppose a patient develops a severe case of influenza—a crisis of toxemia. The physician gives the patient a variety of drugs. Ergo the fever and the symptoms disappear. The "curative" process has been arrested. The patient has apparently been "cured." But the elimination of the toxins has been stopped and new toxins in the form of drugs have been added. The patient is now more toxic than ever. Sooner or later another healing crisis is certain to take place as a means of eliminating the toxins and the next occasion is usually even more severe. It may be called pneumonia which is, itself, primarily a drug-caused disease. There is no other way out. When toxemia exists, disease must eventually arise to eliminate the toxic burden. The physician, by stopping one eliminative crisis, merely lays the groundwork for a bigger and more serious one. He simply postpones the day of reckoning.

Medical "science" not only fails to remove the cause of disease—it adds to it. By interfering with disease it keeps the body in a state of impaired health. By using drugs to suppress the attempt of the body to become well, it increases toxemia. Medical "science" has created many diseases but never cured any. It has killed far more patients than all the wars of humankind. It has helped but few. It has hurt many. It has created a sick world, a world with the sick habit, a world that is submerged in a sea of degenerative diseases. Medicine is a failure both as a means of prevention and as a remedy. It has lowered the chances of survival for humans. This is true, not because of any insincerity on the part of medical practitioners, but simply because the profession started with the wrong theory of disease causation and has been on the wrong track ever since. The belief that disease is an enemy that must be destroyed is voodooistic to the core and has predestined medical "science" to failure in all that it undertakes.

The more than twenty thousand diseases defined in the nosologies are actually all manifestations of the same disease! Disease is a single process which operates the same in all parts of the body. The name of the manifestation merely indicates the locality in which the healing or adaptive crisis takes place. This means nothing. Thus, the hygienist does not have to contend with a multitude of affections or a multitude of remedies. The Hygienists plan is to remove the need for disease. This calls for one universal course of correction—it is essentially the same in all cases. It is, fundamentally, cooperation with the body by furnishing it optimum conditions for conducting its healing crisis.

BACTERIA

The role of bacteria in the production of disease is a very minor one. Bacteria are never the primary cause; in fact, they usually arise on the scene *after* the disease has already developed. The general character and toxicity of the various bacteria depend chiefly upon their environment. The most harmless bacteria may become virulent and toxic when placed in certain environments. On the other hand, the most "dangerous" and virulent bacteria become harmless when placed in a non-toxic environment. The mocrococcus tretagenus, for instance, has, under laboratory observation, changed into fifteen distinct forms when its food supply was changed at periodic intervals. Germs are scavengers. They live upon dead matter. Truly healthy tissue is not subject to so-called bacterial attacks. Only after the cells are poisoned out of existence do bacteria come upon the scene.

Millions of healthy people now living harbor the germs of diphtheria, pneumonia, tuberculosis, and other so-called infectious diseases. Likewise, a large percentage of people develop these diseases in complete absence of the germs which supposedly cause them. These facts shake the germ theory of disease causation to its very foundation. We find diseases occurring in the absence of their supposed cause and the supposedly causative germs existing without causing their respective diseases. We have the equivalent of causeless effects and effectless causes. The entire germ theory of disease hinges on the borders of occultism and and metaphysics. It is as far divorced from science as is palmistry, astrology and mystic philosophy. Thus it is that medical minds are more and more gravitating to the "virus" concept of disease causation. Actually this, too, is pure voodooistic ignorance.

Even if it were assumed, for the sake of argument, that bacteria caused disease, we could not consider them enemies of life and health. Their action under such conditions could only be that of inciting crises of elimination. In doing this they would be acting as friends, not enemies. If bacteria hasten elimination, let us have more of them. They would be unlikely to produce disease in the absence of toxemia and if no toxemia were present, they would cooperate with the body—the body and bacteria live in a symbiotic partnership. Of course, in the presence of a toxic environment, bacteria produce toxins. This is a complicating factor in disease. In this sense bacteria would be anything but helpful. However, their power of inciting disease in a clean healthy body is still non-existent. They still could not be considered a primary cause of disease.

The Hygienic System then rejects the germ theory of disease causation. It bases its practice upon the principle of correct body action in disease. Its aim in all cases of disease is to cooperate with the body in this action; its aim is to create the conditions under which the body can best conduct its right action.

With an understanding of the nature of disease we must seek to avoid, eradicate and reject its causes. We must determine the influences and factors of health and cultivate these. If Hygiene can succeed in this and make a practical application of its findings, disease will become a thing of the past. Disease will be a friend whom we no longer need.

The causes of toxemia are numerous. Fortunatelly, we do not have to determine them. We need only to adopt our correct human dietary, expose our bodies to the sun as needed, breathe fresh pure air, get adequate rest and sleep, ingest only pure water, maintain emotional equilibrium—in short, we must observe the essential influences and factors of health. If we carefully cultivate health practices we, as with animals, will instinctively shun the causes of toxemia which bring on crises of disease. If we live healthfully we will enjoy freedom from disease. We will have superb health and what it begets: a long life and prolonged youth.

CHAPTER 5

The Foods of Civilization

How Modern Foods Build Diseases Rather Than Health

The most important single thing we do is eat. Food is not important just because it affords us enjoyment. Its real value consists in supplying us with the proteins, carbohydrates, fats, vitamins, minerals and other nutrient factors we need in order to live. However, all foods are not the same; some supply these materials in the proper proportions but others do not. Whereas one food may assist in building a strong healthy body, another can be a source of toxemia which begets disease. It is not entirely true that "you are what you eat" but there is more truth in this statement than most people realize. Food plays the major role in determining the health of the body. If you suffer toxemia and deficiency you may be sure that incorrect selection of food has been chiefly responsible. If, on the other hand, you possess vibrant health with great strength, endurance and an abundance of energy year in year out, you are no doubt one of the few who has endeavored to make a practical application of food science.

The foods which will be discussed here are those which distinguish the diets employed by civilized races from those employed by primitive peoples. They are strictly the foods of modern civilization. The discussions will center chiefly upon the nutrient contents of foods, together with their tendencies to produce toxemia. Thus their relation to disease will become readily apparent. You will be able to determine the place, if any, they should have in your diet.

SALT

The role played by salt in the modern diet is a pernicious one. A few decades ago its use was confined chiefly to cooked foods,especially meat. However, now people put it on nearly all foods. Even raw fruits and vegetables such as apples, tomatoes, melons, grapefruit, celery and onions are frequently salted. As a result, the body gets a huge load of this salt. And what is most objectionable, the body gets salt in its inorganic form which makes it unusable for all forms of animal life.

A key objection to salt is the fact that it interferes with the normal digestion of foods. Pepsin, an enzyme found in the hydrochloric acid of the stomach, is essential for the digestion of proteins. When salt is used, only about half as much pepsin is secreted as would otherwise be the case. Obviously under such conditions, digestion of protein food is incomplete or too slow. The result is excessive putrefaction of the protein which, in many instances, causes digestive distress.

It is a well known fact among hygienists who have traced the cause of edema to its source that salt is chiefly responsible for the disease. Salt creates edema because it irritates the tissues-water logging is a defensive action of the body to hold the salt in a weaker solution thus protecting the tissues from damage. In many cases the edema disappears shortly after the use of salt is discontinued. The edema itself serves a physiological need—that of preventing strong salt contact with the cells which it damages.

It is frequently claimed that the salt is essential for the support of life. However,there is no information available to substantiate this viewpoint. The truth is that entire races (primitive), use absolutely no salt today and have not used it throughout their entire history. If salt were essential these races would have become extinct long ago. The fact that they are not only quite alive but possess far better health than other races would seem to indicate that the supposed "necessity" of salt is a commercially inspired invention or purely the product of the imagination.

Nearly everyone has heard stories of wild animals searching for salt licks. However, with rare exceptions, these stories have no factual basis. A big game hunter who spends much of his time where wild life is abundant would indeed be surprised to find animals using salt licks. It is to be acknowledged that a few wild animals occasionally use them in the few locales that have them. But this is so rare as not to be even worthy of consideration. The deer is one of the few animals which has been seen using salt and even is this case we find that most deer living near such licks do not do so. Most of the deer and animal population do not live anywhere near salt licks. Animal use of salt appears to be an abnormality just as with humans. Most animals refuse salt when it is offered to them. And many animals die a quick death if they ingest salt.

There has been a great deal of propaganda in recent years about the advisability of using salt in hot weather. The claim is made that the body loses much salt in perspiration, and that this must be replaced by consuming additional amounts of salt. Otherwise great weakness and inability to continue normal activities supposedly result. Hence factory workers are advised to take salt tablets in hot weather. Those who do not use the tablets are said to become listless and their work is not up to par. The exact motive behind all of these claims is not clear. However, it certainly cannot be in the interests of those who are to use the salt. The most toxic reactions often follow the use of salt tablets. Often the factory workers become quite ill after using them. Vomiting and indigestion appear to be the most common after effects—body rejection of an unwelcome and unneeded substance. And as for enabling one to stand the heat better, it is not agreed that they do this. Some claim fantastic benefits, whereas others claim the salt tablets have no apparent effect on the ability of the workers to withstand the heat. The fact that many primitive tribes of the tropics, using no salt, are not bothered by the heat, while the salt-eating white people do nothing but complain of it, seems to indicate that some commercial motive lies behind the "eat more salt in hot weather" campaign.

People undoubtedly would not eat salt if they were never taught to do so in the first place. Likewise, once they have developed the habit they must be taught not to use it. The desire for salt is acquired. When salt is eliminated from the diet for a short time the craving for it ceases. It is only during the first few weeks or months after the salt is discontinued that it is really missed. After that salt becomes repulsive to the taste.

REFINED SUGAR

Prior to the latter years of the nineteenth century nearly all sugar was used in its brown, unrefined condition. It was manufactured on sugar cane plantations and shipped directly to the market. Then came the rise of the refineries. A plan was conceived to prejudice the public against brown sugar so as to enable the refiners to gain a profit on all the sugar that was produced. If the demand for refined sugar could be created, the producers would be literally forced to ship their raw material through the hands of refiners.

In 1898 the advertising campaign began. The word was spread from coast to coast that brown sugar contained "disgusting insects" which produced "disgusting disease." A picture of the insect magnified 200 times was placed on each advertisement. It was a dreadful looking creature described as a cross between a lizard and a louse. The ruse worked very effectively. Housewives became horrified at the thought of using brown sugar. The demand for refined "pure" sugar was created almost overnight.

The invention of the lizard-louse monster has indirectly done much to lower the level of public health and raise the number of diabetic patients in America to a stupendous number. During the refining process sugar cane is melted, treated with lime, clarified, decolorized in cylinders filled with bone-black, crystallized through evaporation and thence granulated. The result is a product which is throughly devitaminized and demineralized. It contains almost none of the vital elements which are essential for health and life. Even were it whole sugar with a full complement, the fact that it must be created through cooking processes make it unfit for human consumption.

There is nothing wrong with sugar as such. Our sweet tooth is natural. The body needs and should have the greater part of its carbohydrates in the forms of sugar. However, it does not require the refined forms of sugars and syrups as in modern commerce. Sugars should be taken in their natural state as they are then combined with an abundance of vitamins and minerals. Raw sugar cane and fresh ripe fruits provide sugars in their finest forms. They are health-building foods as created by Nature. They meet the body's natural craving for sweets.

White refined sugar must take its place as a major source of disease. It simply burdens the body with so much dead carbon, utterly devoid of vitalizing principles needed by every human being. It is thus harmful for what it does not do, rather that for what it does do. The purpose of food is to nourish the body, not only with protein, fats or carbohydrates, but also with minerals and vitamins. Food which does not meet this purpose is deficient; when used to any great extent it does not furnish a full component of body needs. Applying this criterion to refined sugar we find a food which fails completely, one which is incapable of meeting the most important dietary requirements. Sugar not only is deficient but robs the body of the nutrients necessary to metabolize and handle it.

PASTEURIZED MILK

Pasteurized milk is another denatured food. It is in such common use today that it is taken for granted that there can be nothing wrong with it. Physicians, nutritionists and home economists all recommend it. The first thing the youngster learns in his hygiene class in school is that he should never touch raw milk. He is told of the great discovery of pasteurization and how it prevents disease. After receiving the same information in his later education he ceases to question the value of pasteurization. He regards it as something which was proven correct long ago.

The purpose of pasteurization is to kill bacteria. No one need question its ability to do this. But is this germ-destroying power so valuable after all? And are the germs all that is destroyed by pasteurization? Indeed, if we consider the actual results of using pasteurized milk we must give a negative answer to these questions. For these results are not something to be desired.

Most animals beyond the weaning age will not drink milk. Those that do do not thrive on pasteurized milk. This has been repeatedly shown in many experiments. White rats, the chief experimental animals, attain better health when given raw milk. Kittens generally become ill and die when given nothing but pasteurized milk. Their rate of growth is far slower than that obtained from the use of the raw product. In the animal experiments thus far conducted there seems to be no exception to this rule: raw milk is superior to pasteurized milk in promoting general good health and rapid growth.

Humans react much the same way to raw and pasteurized milk as do the lower animals. All other factors being equal, people who use raw milk generally have fewer diseases than do those who use pasteurized milk. The death rate is usually highest in those cities in which pasteurized milk is used. In the three largest hospitals in Toronto, Canada, there was a sharp increase in the death rate after the use of raw milk was forbidden. The incidence of rickets rose 100% in Baltimore, Maryland when pasteurized milk replaced raw milk as a food for the infants in that city. These facts, in themselves not proof that milk should not be pasteurized, are certainly evidence against its use.

Taking into account entire races, we find that those who possess the best physical development use no milk at all! And where raw milk is used instead of pasteurized milk, physical development is superior. It is especially noteworthy that they usually do not develop the very diseases which the bacteria in raw milk supposedly cause. Tuberculosis is considered in medical quarters to be due quite often to the use of raw milk. But there are many isolated groups of people in the tropics as well as in temperate zone who have always used raw milk and they do not develop tuberculosis. Whereas almost all cases of tuberculosis develop among users of pasteurized milk. Even if raw milk should contain some so-called disease germs, this would not be sufficient reason for rejecting it. The germs of raw milk, if they ever incite disease, do so only in individuals whose condition is such that the disease is required to restore normal function.

The real objection to pasteurized milk is that it has lost some of the vital elements which were originally present. Pasteurization is a destructive process. It destroys germs and with them it destroys enzymes and vitamins and deranges other nutrients. Calcium is made more difficult to assimilate by the body. The chief vitamin which is partially or entirely lost in pasteurization is vitamin C. This is acknowledge by all authorities, but the claim is made that this lost vitamin C can be replaced by adding orange juice to the diet. But certainly better health can be obtained by getting this vitamin from both milk and orange juice than from orange juice only. We are not interested in getting just enough vitamin C to prevent the recognizable signs of deficiency disease. For optimum health we need more than the so-called minimum requirements of the vitamins supplied by a few "protective " foods. All our foods should be "protective" in the sense that they supply an abundance of nutrients. Supplying these vital elements in adequate amounts is something that the pasteurized milk does not do.

The use of pasteurized milk gives modern dairymen a sense of false security. They feel they can take milk from unhealthy cows, handle it carelessly in unclean surroundings, and then make it safe by pasteurizing it. Nothing can offset the improper care of dairy cattle. Modern dairy methods involve feeding cattle upon a forcing diet consisting largely of high protein foods to stimulate milk production, keeping them is sunless barns and poisoning them with tuberculin and other injections. Cattle need fresh air, plenty of sunshine and an abundance of fresh growing grass. Given these, they will produce good milk, and the milk will remain good if it is allowed to retain its vital elements by not being pasteurized.

Humans are best off if they never touch cow's milk, raw or otherwise. Even infants should not be taking cow's milk except where human milk is not at all available.

REFINED GRAIN PRODUCTS

The considerations hereinafter cited are overriden by one salient consideration: Humans are not in any sense graminivores.

The primary foods of most civilizations today are white bread and other products made from white flour. In America these foods are used at virtually every meal. White bread is called the "staff of life" and white flour is considered good, nutritious food. Highly recommended by most physicians, these products are used extensively in all hospitals.

One of the most important discoveries in the field of scientific nutrition has been that white flour is almost completely devoid of vitamins, minerals and other essential nutrient factors. It is, properly speaking, a "dead" food. Products made from white flour can in no sense be called health foods. They simply burden the body with a lot of constipating paste which lacks the vital elements necessary to good health. Worse yet, the body must surrender much of its vital nutrients to the process of metabolization in order to make use of white flour.

The whole grain of wheat is far more desirable and contains many vitamins and minerals. But modern humans rarely use bread and cereals made from whole grains. First the outer hulls of wheat are removed. This removes much of its vitamins, minerals and roughage. This outer hull is either thrown away or given to domesticated animals as their food. Then the germ of wheat is removed. This takes away one of the richest known sources of vitamin E. The wheat is further refined, and when the refining process is complete nearly all the minerals and vitamins have been removed. The flour is then used in making bread. Millers and bakers often add to the flour, bread and cereals two or three of the some twenty five nutrients which were originally removed. They then have the gall to call the products "enriched" whereas they are actually still very much impoverished. Worse, the "enrichment" comes in synthetic and inorganic forms which, instead of being nutritious, is poisonous.

Commercial white flour products are more than foodless foods. They are often primary sources of harmful toxins and ingredients of questionable value, such as powdered gelatin, gelatinized starch, propionic acids, plastic cream, starch "fillers", artificial coloring, fruit acid substitutes, blueing, unclean coconut oil, adultered canned egg yolks and gum acacia. Even the tests drugs, phenolphthalein, has been found in white flour products. Most commercial bakeries are not sources of healthful foods. They still regard the use of healthful ingredients as both unprofitable and unnecessary. The orthodox nutritional scientist often apologizes for the baker's production of white bread on the grounds that the whole grain product often becomes infested with worms and bugs. As Prof. E.V. McCollum remarks: "There are good and sound commercial reasons why most people should eat white bread—It is safest and most economical to transport the refined white flour and get it to the consumer in the form of bread than it is if whole wheat flour were used, since the latter tends to spoil more readily." The lower forms of animal life do not infest white flour and white bread because these foods do not support them. They need live foods rich in minerals, vitamins and other nutrients in order to live. And humans are no exceptions to this rule. We are no more capable of being well nourished on white flour products than are the lowly vermin.

Many people are mislead by the soft, pale, anemic-looking so-called whole wheat bread now seen in many markets. Such bread is rarely composed entirely of whole wheat flour and is certainly not free from the harmful ingredients found in white flour products. Test of such breads have shown that it often contains as little as 30 per cent whole wheat flour, the remainder being white flour.

White rice generally undergoes the same treatment as does wheat. Brown, unrefined rice is a good source of vitamins and minerals but the white refined rice used in civilized nations is a devitalized food. Its outer hull, in which is found most of the vital elements, has been removed. The remaining product is too low in vitamin and mineral content to be considered a healthful food.

CONDIMENTS

Condiments form an unwholesome part of most modernized diets. They are not health-building foods, for they not only lack a wide variety of vitamins and minerals, but are highly irritating to both the digestive tract and the blood vessels. In fact it is the irritating and stimulating qualities which we seek in condiments.

In order to protect themselves from condiments, the blood vessels harden and thicken, producing a disease known as atherosclerosis. Mustard is particularly objectionable in this respect. When it is added to the diet of animals the blood vessels begin to harden within a few months. Experiments with rabbits have shown that another condiment, pepper, has a tendency to produce a shortened life span, hardening of the liver, congestion of the kidneys and degeneration of cells. Many condiments, including horseradish, are mixed with vinegar. In such cases it is doubly wise to abstain from them, for both are injurious.

COFFEE, TEA AND COCOA

Coffee is used largely for its stimulant effect. However, it is this characteristic which is objectionable. The excessive stimulation resulting from coffee-drinking is, in the end, weakening, as any excessive stimulation must be. The eventual depression is always equivalent to the original amount of stimulation.

Caffeine is the poison found in coffee. Used in small doses it is not likely to produce immediate death. Rather, it acts as a slow poison. Caffeine is a cause of heart disease, ulcers and high blood presure and probably contributes as a cause of many other diseases. Heart pains have often disappeared after the elimination of coffee from the diet. Ulcers can be produced at will in white rats by giving the animals enough caffeine. Blood presure has been known to drop as much as twenty points when the use of coffee was stopped. These facts speak for themselves. They show quite clearly that coffee cannot build health. It can, on the contrary, destroy health.

Tea impairs health because of both its theine and tannic acid content. Theine is essentially the same poisonous alkaloid as caffeine. Tannic acid has the reputation of producing constipation because of its astringent action. It is also said to render the digestive juices inert. However, its most objectionable feature is that it tends to destroy some cells and induce a rapid rate of division and multiplication of other cells. It should be remembered in this connection that rapid cell division and multiplication is a common symptom of cancer. Mothers who feel they should not give their children coffee often give them cocoa instead. They undoubtedly have good intentions but as far as their children's health is concerned they might as well have given them coffee. For cocoa contains a poison called theobromine which is a poisonous alkaloid almost identical to caffeine. Animal experiments show that the results of these two poisons are identical, except that theobromine is fatal in smaller doses.

ALCOHOLIC BEVERAGES

The role that alcoholic beverages play in civilization is shown by the fact that billions of dollars are spent for them annually in the United States, with like proportions in other civilized nations. The chief effects of alcohol, whether consumed in large or small doses, are germ plasm impairment with degenerative offspring, liver derangement, weakening of blood vessels, cell destruction, degeneration of heart tissue, with wholesale destruction of brain cells and nerve cells which results in significant disorganization of muscular activity.

Alcohol never produces beneficial effects. It has only bad effects. Its supposed value as an aid to digestion is a myth. By partially preventing the gastric juice from combining with food, it impairs digestion. When we add to this the fact that alcohol interferes with the nutrition of body cells, it becomes apparent that, far from aiding the body in any way, all alcoholic beverages tend to lower physiological efficiency and produce disease.

SOFT DRINKS

The soda fountain is an established American institution. It is patronized by people of all ages, but most particularly by young growing children. Soft drinks such as the colas, ginger ale, orangeade, grapeade, etc. have become national beverages. Their great popularity makes them exert a great influence upon public health.

Most often drinks are composed largely of refined sugar, mineral acids, artificial flavors and coal tar dyes. They rank as our most artificial foods, being completely devoid of natural sugars and natural fruit flavors. Their content of nutrients is nil, ranking them among the most unnatural of substances ingested. Some soft drinks, including the colas, contain considerable amounts of caffeine in addition to their other harmful ingredients. Their deleterious effects are even more pronounced than those of coffee. Colas provide the "pause that refreshes" because they induce stimulation, an effect of the irritation occasioned by the poison, caffeine. More nervous energy is used, thus lowering vitality. This adds to enervation and toxemia.

GELATIN

Gelatin is coming into more general use as a result of advertising which has been building it up as a strength and energy producer. Its assumed value in diet therapy is claimed to be due to its amino acid content. However, this claim has no factual basis; it is obviously founded upon commercial inspiration.

Virtually all foods contain some amino acids and many are far better sources for them than is gelatin. Gelatin is really a poor source of amino acids and does not contain all of them as do most nuts and seeds. If we are going to say that gelatin is of therapeutic value because of its amino acids content, we must regard all foods as therapeutic agents.

Gelatin, as sold commercially today, is usually mixed with refined sugar, artificial flavoring and coloring extracts. In this form it is mixed with water and used as a dessert. The pure product, unmixed gelatin, is harmful enough, but the commercial artificially flavored and cooked mixture is even more harmful. Deficient in vitamins and minerals and containing toxic matters besides, it cannot be accepted as suitable for human use.

ICE CREAM

Commercial ice cream may be distinguished from other ice cream in the sense that it is almost universally made from chemicals and inferior ingredients. These include canned milk, powdered milk, syrup, refined sugar and coloring and flavoring extracts. People usually think of ice cream as being composed largely of cream. However, commercial ice cream frequently contains as little as 7% cream and this small amount is probably pasteurized. In some cases slaughter house wastes such as lard and tallow are added to ice cream. If ice cream is used it should consist of fresh fruits tastefully mixed. Such ice cream is still far from a good food, but it would be far more desirable than the product of commercial vendors.

CANNED FOODS

With the great improvements during the past few decades of the technique of modern food production there has arisen the extensive production and use of canned foods. The housewife saw in these foods the opportunity to save considerable time and the manufacturer saw the opportunity for more profits. This combination has served to make the cork screw and can opener the two chief implements of the modern kitchen. Canned fruits and vegetables have by now largely replaced the fresh articles in all restaurants, cafeterias and home. They have, in fact, taken a position beside refined grain products as staple foods in the modern diet.

When vegetables and meat are cooked for two or three hours, they lose the greater portion of their nutrients, and many of their component are turned into poisonous ash. When the vegetables are cooked under steam pressure the loss is considerable because of the intense application of heat. The acid fruits lose much of their vitamin C and other nutrients during the cooking process. However, this is just the beginning. The losses continue while the food is in storage. Most canned foods are not consumed for months or years after canning. During this time their value continually deteriorates. When finally consumed they are thoroughly devitalized and incapable of supplying the body with adequate amounts of the elements it needs. In addition, they are usually heavily salted; in the case of canned fruits, refined sugar is often used as a sweetening agent. These are in no sense healthful foods. They are incapable of supporting life at a high level, which permits good physical development and fine health.

It is certain, upon examination of all evidence, that many of the most common foods of civilization are health-destroyers rather than health-builders. These include all white flour products, refined cereals, condiments, salt, tea, coffee, soft drinks, refined rice, vinegar, refined sugar, cocoa, canned foods, fried foods, hominy, foods preserved with sulphur or benzoate of soda, lard, bologna, salami, pickled fish and smoked meats. Not all of these foods have been dealt with separately here, but from a hygienic viewpoint, they are all objectionable. They are most instrumental in producing toxemia, deficiencies and consequent disease. In any health building program their elimination from the diet is the first requirement.

There are harmful foods other than those mentioned here—a multitude of them. The modernized foods are those which distinguish the civilized diet from the primitive diet. They are the foods we have examined. Later we shall see that some of the primitive diets themselves bear critical examination. Even they will be found wanting in some respects, though to a far less extent than "civilized" foods.

The matter of diet is best resolved by eating our biologically correct diet and ignoring everything else—rejecting it completely.

CHAPTER 6

The Foods of Primitive Man

Why Primitives Attain Better Health and Physical Development Than Civilized Races

As civilized people, we are proud of our achievements. We point to our skyscrapers, automobiles, airplanes, homes factories, cities, etc. as evidence of our more abundant life. This is all well and good. We should be proud of these things. But we must also admit that we have fallen below primitive man in one respect—we are far more susceptible to disease than he is. The primitive is not necessarily a perfect specimen of health. His record may be below that of many undomesticated animals but he is better off than his civilized brother. His comparative immunity to diseases which are common in nearly all civilized societies deserves careful attention.

All available evidence indicates that the better health of primitive man is the result of his dietary habits, for he succumbs to disease as readily as modern man when he uses a modernized diet, and he is comparatively healthy only so long as he uses his native foods. Our knowledge of primitive life is by no means small. Many scientist have made careful observations of primitive races in regard to both their physical condition and their eating and other living habits. Perhaps the most thorough examinations of primitive races have been made by Weston A. Price of Cleveland, Ohio, who has studied groups in Africa, New Zealand, South America, Northern Canada and other areas. His publications on the subject tell us a great deal. Pickerill made important observations of the New Zealand Maori. Orr and Gilks of England learned much while observing African tribes, and other scientists, anthropologists, travelers, and explorers have also been active making similar observations in various parts of the world.

It will be noted that, in discussing primitive races, more attention is frequently devoted to dental caries (tooth decay) than to other specific diseases. One very good reason for this is that we know more about the condition of the primitive's teeth than we do about the condition of other parts of his body. This is especially true of the primitive races that lived in ancient times. In fact, our knowledge of their health is restricted chiefly to the state of their teeth and bones, for their skeletal remains (including the teeth of course) are usually our main guide, and obviously they cannot indicate the presence of the acute and chronic diseases which affect only the other parts of the body. In this connection, however, it must be remembered that good teeth are not always an indication of perfect health in all individual cases. But as a general rule races or other large groups of people with little or no dental decay are in much better physical condition and do not suffer from as many degenerative diseases as do those with much dental decay.

The teeth also deserve the most careful attention because, among civilized races, tooth decay is one of the most widespread of the degenerative diseases. The elimination of such decay would, in itself, be a major victory. The teeth are among the most important body structures in relation to both health and appearance. To preserve them as long as we live should be our aim.

THE ANCIENT EGYPTIANS

Foremost among the ancient races are the Egyptians. These people left quite a complete record regarding their diet and the degree to which they suffered tooth decay. The numerous mummies found in Egypt tell the complete story; indeed, they reveal as much about the ancient Egyptians' dietary habits as could written records, for not only the teeth but also the contents of the digestive tract are well preserved.

Around 4,000 B.C. the Egyptians possessed almost perfect teeth, as is shown by the fact that no evidence of dental caries is found in the teeth preserved from that time. Their diet included a wide variety of meats, milk, eggs, cereals, fruits, vegetables and nuts. Then came a change, at least for the aristocracy. More than 500 of their skeletons, unearthed from the Ancient Empire Cemetery at the Gizeh Pyramids, show tooth decay in its worst forms. With the evidences of the increase in tooth decay of the aristocrats at this time (3,700 to 3,000 B.C.), were evidences of change in their diets—the trend was away from the coarser vegetables and grains. But the poor, unable to afford anything else, continued to eat their simple, natural foods. They continued to possess teeth free from decay and dental arches that were well formed.

THE AMERICAN INDIANS

Here on the North American continent we have, in addition to the evidence supplied by the Indians whose skeletal remains have been available for study, the evidence supplied by those living in the period since the coming of the white man to America. The former have given us an excellent record of the condition of their teeth in these early times; the latter, being available for personal observation in a wide variety of circumstances and conditions, tell the story of the changes in their physical condition which were brought about by the change in their living habits, especially diet.

The marvelous physique, the strength and endurance of the American Indian in pioneer days—who has not heard of the tales of these? Travelers and explorers alike have given us an inspiring picture of the health of the Red Man, and the essential facts (perhaps not all the colorings) have been upheld and corroborated by historians and scientists. But this picture has rapidly faded away. No longer do we see the stalwart Indian of yesteryear. His place has been taken by the typical ailing Indian of today. Yes, here is a striking example (obvious to all, for it is in our midst) of the influence of modernized foods upon the physical condition of a primitive race.

Among the most famous of the early Indians were the Sioux, the fearless warriors who roamed the Great Plains. Their diet was composed mainly of meat, not just muscle meat but the entire animal, including the organs and the blood. They also used a few vegetables. On such a diet they remained a strong hardy race. Examinations of the skulls of the Sioux of this time show that their teeth were almost 100 per cent free from decay.

After the Sioux were placed on the reservations the picture changed. The conventional foods of modern civilization predominated in their diet: muscle meat, white bread, refined cereals, white sugar and coffee. Soon tooth decay, bow legs, sore eyes and blindness became very common. On one reservation 85% of the deaths were the result of tuberculosis or other respiratory diseases. Nor did it take long for this change to come about—often one generation was all that was required. The mighty Sioux, afraid of no foe in battle, had been defeated by a new kind of enemy—inadequate nutrition.

The Seminole Indians of Florida experienced a decline in health similar to that of the Sioux. In fact, in many respects it is even more striking. Skulls from the pre-civilization era show one of the best records ever found of absence of dental decay—"in several hundred skulls not a single tooth was found to have been attacked by tooth decay," reports Dr. Price. In addition, the skeletons themselves showed "unusually fine physical development and freedom from joint involvements."

The present day Seminole Indians who mingle with modern man and consume his refined foodstuffs suffer from a wide variety of diseases. Forty decayed teeth in every hundred is their record. They also suffer from a wide variety of degenerative diseases, being particularly susceptible to arthritis. On the other hand, there are isolated groups living in the Everglades and Cypress Swamps of Florida. They still use natural foods and their health is excellent. Tooth decay among them is only about four in every hundred teeth.

Regarding the Indians who lived in the Pacific Coast areas, we know but little regarding their susceptibility to most disease. But we do know that they had virtually perfect teeth. In the Museum of Natural History in Washington, D.C., is shown a large array of the skulls of these Indians. Of the thousand of teeth in these skulls practically none show evidence of decay.

Among the other Indians who have left skull and skeletons for us to examine are the Algonquins of Kentucky, the Arikara of the upper Missouri Valley and the various tribes of Wisconsin. Their diet varied somewhat but usually included vegetables, fruits, nuts and grains, together with liberal amounts of meat and in some cases, fish.

Skulls from these groups show an excellent record of dental health, but nevertheless, tooth decay among them is somewhat higher than among the Sioux and the Seminoles. It is to be noted that these tribes used more grains, a fact which has been pointed to as a causative factor in tooth decay, when used to a very great extent and not balanced by liberal amounts of other foods.

This stand is further upheld by the record of the Zuni Indians of southwestern United States whose diet consisted mainly of grain, especially corn, with a few vegetables and only occasionally meat when the hunting was good. They suffered from more tooth decay than perhaps any other Indian tribe. Fully 75 per cent of their skulls show evidences of dental caries.

In northern Canada there are primitive Indians virtually completely isolated, as well as those who have become more or less civilized. In an extended trip through this region, Dr. Price found that the degree of dental decay was invariably associated with a similar degree of contact with civilization and its attendant consumption of modernized foods.

Of necessity, the more isolated Indians must live mainly upon the wild animals of the chase, for the cold climate does not permit much else. But they do not restrict themselves to the muscle cuts of their quarry: they consume nearly all the parts of the animal, including the vital organs. A typical group of these Indians, when examined, displayed excellently formed dental arches and tooth decay of only 0.16 per cent. Of the other groups, in every instance, the more modern foods were consumed, the more tooth decay was present, as high as 40 per cent of the teeth being affected.

Nor was tooth decay the only disease which followed in the wake of civilization. Arthritis, tuberculosis and other diseased conditions unknown to the isolated groups, were the lot of those who consumed refined foods.

Notable too was the lessened capacity and efficiency of reproduction of the Indian woman living upon modernized foods. According to Dr. Davis, director of the hospital at the Indian Resevation at Brantford, Ontario, childbirth was no great problem or ordeal to her primitive sister. She simply took her shawl and went outside to the bush, alone or with someone, gave birth to the baby and returned to the cabin. But the lowered physical condition of the modernized Indian woman, who uses refined foods, makes maternity problems the largest proportion of cases at the hospital. Long periods of labor pains, difficult and painful childbirth, which often makes surgical interference necessary—such is the lot of the modernized Indian woman.

Dr. Josef Romig, of the government hospital at Anchorage, Alaska, has noted the complete absence of malignancy among the primitive Indians and Eskimos. Tuberculosis is common, but experience has shown Dr. Romig that when patients come for treatment for this disease, the best advice he can give them is to go back to their primitive diet. When this advice is followed, recovery is usually the result.

Such deterioration of health is seen repeatedly on the reservations, in the schools, etc., in Canada and Alaska. When the Indians depart from their primitive living habits and adopt a modern diet, they soon suffer from dental decay, tuberculosis, arthritis, and the long train of other diseases so evident in the civilized countries.

Nutritionists have long been puzzled by the fact that the Indians of Northern Canada are able to prevent scurvy on a diet which contains so few fruits and vegetables which supply vitamin C. Meat, which forms the greater part of these people's diet supposedly contains no vitamin C. This also puzzled Dr. Price for a time. However, he discovered that a special effort is made to include in the diet of every member of the group, the adrenal glands and the second stomach of all the moose killed. Being exceptionally rich in vitamin C they help prevent scurvy. By using all parts of the animal the Indians are able to prevent many diseases which undoubtedly would otherwise develop.

Turning to South America and the Peruvian Indians living today along the coast, in the Andes Mountains and in the Amazon jungles, we see that those who still use native foods possess unusually good health and excellent teeth. The great strength of the primitive Indians of the Andes Mountains region is almost beyond belief. They are able to carry packs weighing from 200 to 300 pounds all day without ill effects. And they often carry such packs day after day . They are also able to endure extreme cold. However, among the Peruvian Indians who use modernized foods we find much disease. They are particularly susceptible to dental decay in its worse forms. They also do not possess the fine facial form of the primitive Indians. The latter is largely due to deformed dental arches.

THE ESKIMOS

Though most of the Eskimos in Alaska have changed their living habits, particularly their dietary habits, to conform to the civilizing white man's, there are some primitive isolated groups which have continued to follow their old way of living. Let us examine them first.

The primitive Eskimo lives mainly upon the seal and the various kinds of fish which he can obtain from Alaskan waters. During the short summer season he also eats berries, blossoms of certain flowers and sorrel grass, as well as kelp, storing in seal oil whatever quantity he can for winter use. The caribou, fish eggs, birds' eggs and ground nuts are on his menu too.

As is the case with many other primitive races which are chiefly carnivorous, the Eskimos are not always particular about the state of freshness of their food. They gather large numbers of ducks' eggs in the spring, eat as many as they wish, and store the rest to consume whenever they please. When they are removed from the ground months later, they are of course not fresh. But what we call "bad" means nothing to the Eskimos. Rotten eggs are delicacies to them. And this same story applies to their meat. They remove the fins, tails, heads and guts from fish and store these in large pits in the clay. When the process of decay is well advanced the Eskimos remove the clay and partake of the meat which has been transformed to a homogeneous paste. The putrid odor of this food brings delight to the Eskimo nose; its flavor is consider unsurpassed.

It has been mentioned that certain of the tribes living in Northern Canada always eat the glands and the walls of the second stomach of the moose as a preventive of scurvy. It is interesting to note that the Eskimo likewise has an animal source of vitamin C—certain layers of the skin of one of the species of the whale. The organs of the large sea animals are eaten, along with the other portions. Seal oil is consumed liberally.

The primitive Eskimo on his native diet does not live as long as other primitive races, he is not so well developed, and he ages prematurely. Such a situation is quite inevitable,considering how unbalanced his diet is. During some months no plant foods are available. And the consumption of old decayed flesh and eggs probably doesn't help him either. However it is worthy of note that the Eskimos on this defective diet is in better condition than those Eskimos who use modern foods such as white bread, sweetened canned foods, coffee, tea, candy, etc. The primitive Eskimo is free from a number of the degenerative diseases which commonly afflict civilized races and he has virtually perfect teeth. In addition to possessing almost no dental caries he has dental arches that are well-formed.

The Eskimo who uses modern foods presents quite a different picture. His general health is greatly lowered, with tuberculosis taking a large toll. Tooth decay, unhealthy gums and poorly formed dental arches with their accompanying impairment of facial structure have become common to him. In the last 75 years the Eskimo population of Alaska has decreased approximately 50 per cent, a fact which has seemed to justify the statement that few races have suffered so tragically from the influence of modern foods as have the Eskimos. Many fear that unless something radical is done, the extinction of this race is not far away.

CONTEMPORARY PEOPLE OF EUROPE AND ASIA

Next we turn to the contemporary people of Europe and Asia. First of all, in Europe we find that in several isolated areas of Switzerland live groups of people who abstain from the use of modernized foods. These areas include the Loetschental Valley, and some high valleys between Italy and the Rhone Valley. The major towns in the latter area include Grachen, Vispertimen and Ayer.

About 2,000 Swiss live in the beautiful Loetschental Valley. They produce nearly all of their food and belongings locally. The diet of these people consists mainly of fresh milk, cheese and whole rye bread with meat about once a week. On this diet the people attain a high degree of immunity to disease. Not a single case of tuberculosis has ever been reported in the history of the Valley.

The people of Vispertimen live on a diet similar to that used in the Loetschental Valley except that they also use the products of the vineyard in their diet. Tooth decay among these people is almost non-existent except in those individuals who left the town for a few years. The use of modern foods during that time was usually followed by dental caries. The beauty of these native Swiss, living upon unrefined foods, is reported by observers to be unsurpassed by any other people living in the temperate zone. The facial deformities of so many civilized people living upon modern foods are absent among them.

The people in the rest of Switzerland who live upon the conventional diet of civilization attain no such inmunity to disease as do the Swiss of the Loetschental Valley and the other isolated areas. The widespread prevalency of goitre, tooth decay and tuberculosis has been noted again and again by observers in Switzerland. The superior physical condition of the isolated Swiss as contrasted to the poor physical condition of the modernized Swiss shows quite clearly the effects of the conventional modern diet.

The lower peasant classes in the Balkans have long been known to possess better health than do Americans and other civilized people. (Changes in their dietary and other living habits during World War II may be expected to make a difference.) They generally live longer and have better teeth. In each of these cases few modernized foods are used, the staple foods being black bread, milk and milk products with fruits and vegetables eaten regularly.

The state of health of these folk, after they come to America and consume our modernized foods, rapidly deteriorates. Doctors, social workers and nutritionists in our large cities are impressed with the fact that within a very few years tooth decay and other diseases are very common among them. Dr. H.P. Cross found that 96 per cent of the children immigrating from southern Europe to this country had fairly sound teeth. But after they had lived here only a few years he noticed their teeth had already begun to decay, in some cases to an alarming extent. That the increased tooth decay was the result of the use of more modern foods is a conclusion which must be regarded as most probable.

However, even the peasants of the Balkans and Italy, using some, though not many refined foods, are not as healthy as the isolated Swiss, who use no such foods. Truly the isolated Swiss can offer inspiration to their less healthy neighbors; they are the strongest and most beautiful race in Europe today.

In studying Asia we see that the really primitive groups of that continent are chiefly the tribes of the sub-tropical regions, especially of India. Here the Sikh, Pathan, Mahratt, Hunza, Bengali, Madrassi and other races give us examples of the results of different types of diets.

Of all these races, none equal the Hunza and isolated groups of the Himalaya Mountains as far as strength, endurance and freedom from disease are concerned. The Hunza have frequently been called the healthiest of all peoples. They live extraordinarily long lives and preserve a youthful appearance far longer than do civilized races. At the age of 80 the men still play polo, one of their favorite sports. They think nothing of walking 60 miles a day.

Accidental lesions, senile cataracts and granular eyelids are among the few diseases which afflict the Hunza. The common diseases of civilization are entirely absent or occur so seldom as to merit no important attention. This unusually high immunity to disease, combined with perfect physical development and lifelong vigor, has made the Hunza a source of interest among the scientists ever since they were first examined by Sir Robert McCarrison, the former director of British Medical Service in India, during the early part of this century.

The diet of the Hunza deserves much attention in the search for reasons for his excellent health. The fact that his diet is entirely devoid of modernized foods indicates that superior nutrition is probably the responsible agent. Fruits (especially sun-dried apricots), vegetables, whole grains (wheat, barley and maize), milk, butter and a little goat's meat are the only foods used. The diet is really a simple one, consisting of foods eaten in a largely unchanged condition while they are still fresh and consequently in possession of an abundance of vitamins and minerals.

McCarrison also lived for a considerable period among certain of the isolated races in the remote parts of the Himalayas. The story here was similar to that found in the state of Hunza. During the span of nine years' association with these people, McCarrison observed no cases of dyspepsia, appendicitis mucous colitis or cancer. The chief medical assistance he found necessary to provide consisted of treating strangulated hernias and ubiquitous parasites. The common civilized diseases were absent or very rare occurrences. The people possessed perfect physiques, were unusually fertile, lived to great ages and preserved the characters of youth into their advanced years. The diet employed here was similiar to that used by the Hunza except that it contained eggs instead of goat's meat. Fruits, vegetables, whole grains and milk were eaten in all cases.

The other races of Northern India which have been noted for their fine physical development are the Sikhs, Pathans,and Mahrattas. Whereas these people are tall, strong, and highly resistant to disease, their neighbors to the south in Bengali and Madrassi are weak, toneless, supine, poorly developed and very susceptible to all types of disease. The proportions of specific diseases in Madrassi to those in the Punjab region of North India (inhabited by the Sikhs, Pathan and Mahrattas) run as follows: peptic ulcer, 58 to 1; tuberculosis, 2 to 1; leprosy, 10 to 1; beri-beri, 100 to 1; rheumatism, 5 to 1; cancer, 3 1/2 to 1; rickets, 4 to 1; diabetes, 3 to 1; mental diseases, 3 to 1; heart disease, 4 to 1; nephritis, 10 to 1; round worms, 20 to 1; diarrhea and dysentary, 2 to 1; and malnutritional diseases (excepting beri-beri), 2 to 1. When these figures are averaged together we find that, on the average, the Madrassi is afflicted with about six times as much disease as are his neighbors to the North. When we consider that the Madrassi are afflicted with no more disease than the people of England and Wales and that Americans are only a little better off than the Englishman, the excellent condition of the races of the North India becomes self-evident.

In comparing the diets of these races we find that the same holds true here as elsewhere. The races which possess the best health are those which use the most unrefined foods; the races which are weak and underdeveloped are those which use the modern foods of civilization. The diet of the Sikhs, Pathan and Mahrattas is composed of whole grain cakes (chapattis), milk, milk products (clarified butter or ghee, curds and buttermilk), dhal (pulse), meat, and small amounts of fruits and vegetables. In Madrassi and Bengali the staple food is refined white rice. Meat, milk, fruits and vegetables are used but sparingly. That the superior diet employed by the races of North India is responsible for their better health and that the inadequate diet employed by those of central and south India is responsible for their poor health, is accepted by nutritional authorities the world over.

The diet of the Chinese has long been pointed to as being defective in many respects. This stand is certainly not without justification. First, there is insufficient quantity of food to feed the large population; second, even when sufficient quantities of food are available the diet is likely to be unbalanced, with a preponderance of rice. Moreover, this rice is usually refined and thus robbed of many of its natural vitamins and minerals.

It may seem like a paradox but new evidence lends support to the contention that in some rural sections of China, the semi-primitive peasants follow a diet that is superior to many modern diets of the more civilized highly developed countries. The explanation lies in the fact that, whereas more vegetables, fruits and soybeans are consumed in these sections, the extremely modern diets are composed mostly of refined and processed foods.

Dr. G.W. Lasker, of the Harvard Medical School. has shown that, in spite of the shortcomings of the Chinese diet, tooth decay in China is less frequent than in America, and that the "Chinese have suffered in at least one respect through their contact with Occidental civilization; their teeth go bad, and in direct proportion to their degree of contact, at that." The Chinese immigrants, brought up in China, have on the average, only half as many dental caries as do the Chinese who are born and raised in America. Likewise, American-born Chinese who go back to China and spend much of their life there have less tooth decay than those who remain here.

For the purpose of our study it is especiallly pertinent that "Immigrants from the most modern communities, particularly Hong Kong, show most tooth decay." Then too, it has been noted that the Chinese in rural sections and small villages possess far better general health and attain old age in more instances than do those who live in the cities. Along with this contrast in health and longevity is the contrast of the Chinese diets: more unrefined foods and fruit and vegetables in the rural sections and small villages—more modernized foods in the cities.

TRIBES OF AFRICA

In studying the African tribes which have preserved their native customs we find that they have been able to maintain a high immunity to many degenerative diseases. At the same time it must be noted that the immigrant white population, living on their modernized foods, suffer from the usual array of disease. This comparison leads one to the logical conclusion that the foods eaten by the natives must be in some way influential is producing their better health. The fact that the primitives do develop many degenerative diseases when they adopt the modern life (particularly a modern diet) also indicates that their better health is not due to their racial pattern (as some have supposed) but rather to their manner of living.

Most of the races of Africa fall into one of two groups, the agricultural tribes, such as the Kikuyu and the Watusi, and the cattle tribes, such as the Masai, Neurs and Muhima. The agricultural tribes generally use a restricted variety of foods, chiefly corn, bananas, sweet potatoes and millet. The cattle tribes use fewer quantities of vegetable foods and concentrate upon the flesh, blood and milk of the animals. Of these tribes, those consuming the animal foods are the best physical specimens, if not for the reason that they use more of the animals foods, perhaps because they use their food in a more natural condition. The tough, pasty cakes and cereals made from grains by the agricultural tribes are far from natural foods. The cattle tribes are stronger, much more rugged and far better developed than are the agricultural tribes. Among the cattle tribes that inhabit the regions near the Nile river it is not uncommon to find women over six feet tall and men over seven feet tall.

As for the tooth decay among the African tribes, this varies considerably. The Masai, Neurs and Muhima generally possess almost perfect teeth with little or no decay and no irregular dental patterns. In fact,some of the tribes which were studied presented no dental caries at all, and dental arches were perfectly formed. However, the agricultural tribes do not fare so well. Tooth decay among them averages about 5 per cent. This is a much better average than that of the white population of Africa but it is not as low as a good diet should provide.

Some of the African tribes which use only native foods are said to possess a unique immunity to many diseases in addition to tooth decay. Dr. Anderson, the director of the goverment hospital in Kenya province, has reported that malignancy is extremely rare among the natives. He has seen no natives develop appendicitis, gall bladder trouble, cystitis or duodenal ulcer. Disease is most common among the tribes who have access to a modern food supply. They are especially prone to tooth decay, and their facial structures are generally deformed.

The white population of Africa takes every precaution to protect themselves from the numerous tropical diseases. They will never touch hides worn by many of the native tribes because these hides are said to contain lice which may carry many dangerous infectious diseases. Likewise, they boil all drinking water and usually cook all food thoroughly in order to kill the bacteria that may be present. Yet, the natives, using many uncooked foods and wearing these lice-infested hides, are less affected with these infectious diseases than is the white population. This is indeed grim testimony that their mode of living offers a poorer environment to the so-called disease promoting bacteria than does our mode of living. Much of the negroid population of Africa has by now adopted a diet of modern foods. It is for this reason that it is steadily dwindling and that its future outlook is anything but bright. We may regard the extinction of many African tribes as probable in the future unless there is a definite return to native dietary customs.

AUSTRALIAN ABORIGINES

The Australian Aborigine lives in an environment in which conditions are highly unfavorable for extensive plant and animal life. In most of the continent the rainfall amounts to less than 10 inches a year, and this is hardly adequate to provide an abundant food supply. But in spite of adverse and exacting conditions, the Aborigine has been able to attain excellent physical development and superior health.

As among many other primitive tribes, physical fitness, great strength and good endurance are prerequisites of respect among the members of the group. Good health is placed among the ideals which all strive to attain. The younger males must undergo severe tests to demonstrate their physical endurance before they may sit at the meetings of the council or become members of the council. Marches of two or three days across the desert without food are made as a part of these tests.

Of particular importance is the condition of the Aborigines' teeth, eyes, hair, and facial structure. The teeth are fairly good, only 4.3 per cent being decayed. The dental arches are also well-formed in most cases. With the good dental structure is generally found good facial development with but few deformities. The eyes of these primitives are so powerful that they have been a source of curiosity among travelers. Often the primitives report seeing stars which the white man cannot see at all. The primitives can also see animals a mile distant which others cannot see until they move much closer. The Aborigines generally possess a very heavy growth of hair. It is especially notable that this growth generally lasts throughout their life. Baldness is very rare, even among the oldest members of the group.

With this picture of the health of the Australian Aborigine in mind let us consider his diet. As already mentioned, food is not always easy to find because of the unfavorable climatic conditions. Hence, skill in hunting is of great importance. Armed with a spear, the native spends much of his time hunting for whatever animals are about, especially the kangaroo. In addition to animals, he eats bird's eggs and plant foods such as berries, seeds of grasses, and stems and leaves.

Among the natives who have left their customary way of living we find a much different situation relative to their physical condition—another instance of degeneration. And always, concomitant with this degeneration, we find that the native foods have been displaced with modern foods such as white bread, white sugar, canned foods and coffee.

On the reservations especially, many refined products are consumed. Consequently, we find significant the fact that the Aborigines on these reservations suffer from severe tooth decay; often as many as 40 or 50 per cent of their teeth possess caries. This is associated with increases in the proportion of other diseases. Tuberculosis runs rampant in many cases. The Aborigine is simply incapable of remaining healthy when he uses the conventional foods of civilization. It is only when given unrefined foods that he remains comparatively healthy and immune to most disease.

TORRES STRAIT ISLANDERS

In the Torres strait, north of Australia, there are numerous small islands, each supporting a population of a few hundred to a few thousand people. Some of these islands have been modernized and some remain isolated from much contact with civilization. The natives, when a modern food supply is not available, live in an environment which is conducive in every way to the highest state of health. The climate is subtropical, which allows the natives to take full advantage of the beneficial health-giving rays of the sun. Rainfall is abundant, resulting in a luxurious growth of plant life which supplies plenty of roots, greens and fruits for food. Also, animal sea food is plentiful in all cases.

Living in this good environment with its supply of natural foods, the Torres Strait Islanders attain a state of health which has seldom been equalled or excelled by any other race. Dr. J.R. Nimmo, a physician in charge of four thousand of these islanders, declared that he had not seen a single case of malignancy among the entire group during the thirteen years he remained with them. During the same period he found it necessary to perform several dozen surgical operations among the few hundred of members of the white population on the islands. The whites, of course, used modernized foods whereas the natives used only their fish, fruits and plants. Tooth decay among these natives involves less than one per cent of the teeth. Dental arches are broad and well-formed in nearly all the cases. Health and happiness are realities to these people.

Contrasted to the excellent physical condition of these natives who consume only natural foods is the very poor physical condition of the islanders who use the conventional foods of modern civilization. This is shown especially in the condition of the teeth. The amount of tooth decay and abnormal dental arches varies in direct proportion to the length of time governmentfood stores selling the customary white flour products, white rice, refined sugar, sweetened canned foods, etc. have been on the island. More than 20 per cent of the teeth are decayed on Badu Island. Abnormal dental arches exist in 40 per cent of the individuals of Hammond Island. The natives of both of these islands have access to government food stores.

THE NEW ZEALAND MAORI

The Maori, living in New Zealand, have long been noted for their superior condition. Examination of hundreds of ancient Maori skulls show that only about one in 2,000 teeth were decayed. This is one of the lowest percentages of tooth decay ever found in any race. The Maori who live today upon their native foods likewise have almost perfect teeth. They have splendid physiques, and most of them preserve good figures into advanced old age.

The native diet of the Maori includes liberal amounts of sea foods of both plant and animal origin. Shell fish and sea plant called kelp form a very important part of the diet. Sea ferns of high nutritional value are used in many instances.

Regarding the Maori who use modernize foods, they suffer tragically from evidences of disease. Their teeth decay readily and they do not possess the beauty of the other Maori. It is also notable that, whereas the Maori who use only native foods are a gay, carefree people who never seem to have an unhappy moment, the modernized groups have become lethargic and lazy. They seem to lack the spirit and enthusiasm which tend to make a happy existence. Mentally, as well as bodily, they have suffered from their inadequate diets.

THE SOUTH SEA ISLANDERS

Among the best known of the South Sea Islanders are the Polynesians. They inhabit many islands of the South and Central Pacific, including the Hawaiian Islands, the Cook Islands, the Tongan Islands, the Marquesas Islands, Tahiti and the islands of the Samoan group. They are tall and well-proportioned, and their color resembles that of sun-tanned Europeans. When first discovered by the white man the Polynesians were a healthy, happy race of people possessing beautiful bodies and pleasant dispositions. In fact, the natives' beauty of face and figure, together with their happiness and health, caused many early navigators to speak of these islands as the Garden of Eden.

Originally, the population of the Marquesas Islands consisted of 100,000 healthy natives. Then a wide variety of modernized foods was introduced to the islands. Almost immediately therafter great epidemics of measles and smallpox became common. Large numbers of the natives died of pneumonia. Tooth decay rose to almost 40 per cent. The native population is now about 2,000. With the exception of the few who still consume their native foods, the extinction of this small group appears now to be only a matter of time.

Tahiti is probably the best known island inhabited by the Polynesians. Since a modern diet has been introduced, the population has dwindled from 200,000 to 10,000. The few natives who still live exclusively upon natural foods possess good health with almost complete freedom from dental caries, whereas over 30 per cent of the teeth of the modernized Polynesians of Tahiti are decayed.

The inhabitants of the Tongan Islands seem to have had better luck than their neighbors. Except for a short period after World War I, few imported foods have arrived at the islands. Hence, excellent health is the general rule among these people. Tooth decay, after rising to 33.4 per cent in the port area when foods were imported, later dropped to 0.6 per cent when the native dietary was resumed. The Tongan Islanders are very tall although this is not necessarily due to their use of natural foods. The Samoans and Hawaiians have also possessed good physical development with very little disease as long as they used their native foods. With the importation of refined products. many signs of degeneration have developed, and tooth decay has risen from 0.3 per cent to 18.7 per cent in Samoa.

Basil C. Thompson, during his visit to the Polynesian Isles, noticed that nearly every child had an eruptive disease known as yaws at one time or another. He then questioned an English trader, Dr. Head, about the prevalence of yaws and other diseases on the islands when he first visited them. Dr. Head declared that before the arrival of the Samoan teachers, yaws was quite unknown and that the people then died of old age rather than specific diseases. Whooping cough and measles were claimed to have been non-existent. Thompson also noted in his travels that formerly the Polynesian women were never barren although now they frequently are.

Robert Louis Stevenson made an extended trip to the Polynesian Islands and was puzzled by the inferior health of the natives at that time as contrasted to the high immunity to disease which they formerly possessed. He often wrote of their extremely high death rate, of the epidemics which wiped them out in large numbers, and of the depressed mental attitude of the people. Whereas the people were formerly lovers of song, mirth, games, laughter, swimming and dancing, they became depressed and lethargic. They didn't want to dance, never sang and were a miserable lot. Their chief fear was that of death as they saw their race rapidly dying out. Stevenson was no scientist and knew little of nutrition. Hence he never discovered the real cause of their plight—the use of refined, devitalized foods since the arrival of the white man.

The native diet of the Polynesians, that which was used before the arrival of the white man and is still being used by isolated groups today, is somewhat similar to that of the Torres Strait Islanders. Animal sea foods, both raw and cooked, together with an abundance of fruits and vegetables, predominate in the diet. Raw, whole fish, eaten immediately after being taken from the water, is a favorite of the few hundred isolated Polynesians of the Marquesas Islands. And by whole fish is meant just that. This includes the heads and all of the internal organs. Hardly a particle is thrown away. On some of the islands fowl and wild pig are used in addition to the fish or in place of the fish. Underground ovens of hot stones are used for cooking their foods. "Poi," a food prepared by cooking taro and then allowing it to ferment 24 hours, is a particular favorite of some Polynesians, particularly those of the Hawaiian Islands. Yams and sugar cane are also quite popular. As there is an abundance of tropical fruits throughout all of the islands, they are used extensively.

Many of the South Sea Islands are inhabited by another race kown as the Melanesians. These people are shorter than the Polynesians and are dark skinned with long kinky hair. Formerly they were cannibalistic and were hardly representative of the other fun-loving South Sea Islanders. Their lives involved much superstition which made their society a sort of rigid dictatorship.

In spite of the rather unfavorable aspects of the Melanesians' life in many ways, these people are remarkably healthy. They are indeed a more beautiful race than the dark -skinned races of other islands, and possess but few facial deformities. Their teeth are often stained because of the betel nut which they chew but are generally free from decay. Their dental arches are almost invariably well-formed.

The diet of the primitive Melanesians is usually somewhat similar to that of the Polynesians although they cook more of their food and use less fish and more pig than do the Polynesians. In a few cases, especially in the Solomon Islands, their selection of food is quite restricted. Ninety per cent of the diet of the Solomon Islanders consist of the taro plant. With such a restricted diet the physical condition obviously cannot be at the highest level. However, it is better than that which many modern diets allow. In the Solomon Islands campaign of World War II our soldiers were astonished at the acute senses of the natives. The hearing and sight were invariably found to be better than that of the soldiers. In a report concerning these people, Douglas L. Oliver states in *Natural History*, Nov., 1942 that "Young and old show the energy of youth when there is a christening dance. The women have amazing vitality and work hard." He furthers remarks that "Dancing (at the feasts) can go on 18 hours without a let-up." With a more varied diet we might expect their physical condition to be even better.

The modernized Melanesians are highly susceptible to disease. Over 30 per cent of their teeth are generally decayed, and dental arches are rarely well-formed. The facial pattern and beauty of the primitive Melanesians is lost when they use refined foods. Suicide is becoming quite common in modernized Melanesia, the chief cause being toothache. They do not use the foods which maintain good health, and hence, soundness of the teeth, and they do not have dentists at their disposal when the pain occurs.

VITAMIN AND MINERAL CONTENT OF PRIMITIVE FOODS

It is intersting to note that the diets of most primitive races contain several times as many vitamins and minerals as do modernized diets. Whereas most primitive diets contain at least four times the minimum requirement of most vitamins and minerals, the modernized diets fail to provide even the minimum requirements. It is probably that these higher percentages of vital elements in the diets of primitives are largely responsible for their good health. We may be sure the primitive who uses his native foods rarely, if ever, suffers from deficiency diseases.

We are indebted to Dr. Price for our knowledge of the vitamin and mineral content of the primitive diets. In his travels he made a chemical analysis of the foods of each primitive group he visited. As a result he is able to give us the following statistics regarding the vitamin and mineral content of the primitive diets as compared to the value of the typical modernized diet of civilization. The numbers given in the various columns show how many times as much of the respective elements are found in the respective primitive diets as in the modernized diet. For instance, the chart shows that the diet of the Australian Aborigine contains 4.6 times as much calcium, 17 times as much magnesium, 50.6 times as much iron, 6.2 times as much phosphorus and 10 times the amount of fat-soluble vitamins as found in the modernized diet. The rest of the chart may be read accordingly.

Race	*Calcium*	*Magnesium*	*Iron*	*Phosphorus*	*Fat-Soluble Vitamins*
Australian Aborigines	**4.6**	**17**	**50.6**	**6.2**	**10**
New Zealand Maori	**6.2**	**23.4**	**23.4**	**6.9**	**10**
Melanesians	**5.7**	**24.4**	**22.4**	**6.4**	**10**
Polynesians	**5.6**	**28.5**	**18.6**	**7.2**	**10**
Cattle tribes of interior Africa	**7.5**	**19.1**	**16**	**8.2**	**10**
Agricultural tribes of interior Africa	**3.5**	**5.4**	**16.6**	**4.1**	**10**
Eskimos	**5.4**	**7.9**	**5.5**	**5**	**10**
Indians of Northern Canada	**5.8**	**4.3**	**2.7**	**5.8**	**10**
Coastal Peruvian Indians	**6.6**	**13.6**	**5.1**	**5.5**	**10**

Peruvian Indians of the Andean Mountains	5	13.6	29.3	5.5	10
Native Swiss	3.7	2.5	3.1	2.2	10
Gaelics	3.7	1.3	1	2.3	10

In addition, it is reported that the ratio of iodine in the food of the Eskimo to that of the modernized diet was 49 fold and of copper, 1.8 fold. For the Indians of Northern Canada the ratio of increase for iodine was 8.8 fold and for copper, 1.5 fold. Regarding the fat-soluble vitamins, the 10 fold increase is given in every case although often the ratio was in excess of this figure. As the extent of the excess was not given by Dr. Price it could not be provided here. There was also found to be a far greater amount of water-soluble vitamins in the primitive diets than in the displacing diets.

The greater percentage of vitamins and minerals and the diets of the healthier primitive tribes over other tribes of the same racial stock is also to be noted. In his travels in Canada and Alaska Dr. Price examined a tribe of Indians still uncontaminated by modern dietary habits which had only 0.16 per cent decayed teeth. A different tribe, with tooth decay approaching 21.5 per cent, was also examined. The latter tribe had adopted some (but not all) of civilized man's dietary habits. When the diets of these two tribes were examined that of the tribe with the least tooth decay was found to contain far more minerals than that of the other tribe. The better diet contained 83 per cent more copper and 76 per cent more magnesium than did the other diet.

THE PRACTICAL APPLICATION

The presentation of the overall picture of primitive races, from the Eskimo of the north to the Polynesian and Melanesians of the South Sea Islands, reveals as nothing else could, the inferiority of the devitalized, refined foods of modern commerce. In the face of this evidence it is indeed surprising to find that nearly all medical physicians and university nutritionists continue torecommendsuch foods. The whole question regarding the consumption of refined, processed, adulterated, canned and otherwise mistreated foods has been so completely solved by the primitive's experience as compared to ours that it can hardly remain a question for debate.

There is no doubt but what the health of civilized races could be raised to a level corresponding with that of the healthiest primitive races if they too used the best primitive foods. By simply stopping the production of many modernized foods and increasing the use of unrefined foods the health of the entire nation could be raised to a much higher level, automatically solving many of the problems now keeping our doctors and dentists busy. Facial beauty would become the general rule rather than the exception. Tooth decay and many other degenerative diseases would either cease to exist or would become so rare as to be of little concern. The span of youth would be prolonged, as would the length of life. Furthermore, the period of chronological old age would cease consisting chiefly of degenerative disease, weakness and unhappiness. The old would be much healthier and stronger than they now are.

The experiences of the primitives uphold all of the claims which have been made against modernized foods from the standpoint of their vitamin and mineral content, their content of toxic elements, and their tendency to produce disease. The primitive is a living proof that modernized foods are among the greatest foes of good health. But this does not call for a diet corresponding to that of the healthiest primitives by each and everyone of us. We can go further than the primitive has gone. We can greatly improve upon his diet. The primitive has taught us not to use modernized foods. But additional knowledge of nutrition, coming from other channels, tells us to make further dietary changes in order to secure optimum health. The primitive has perhaps reached the half way mark between the conventional disease-producing diet and the ideal diet.

CHAPTER 7

Don't Cook Your Foods

How The Process of Cooking Lowers Your Health and Vitality

Cooked foods have always been considered a blessing to mankind. When man first learned to use fire it is assumed that he quickly applied it to foods in order to render them more palatable, and cooking is still considered valuable for this reason. In addition, it is asserted that by increasing the variety of foods we may eat, the cooking process gives us a wider variety of vitamins and minerals and other elements. Also, cooking supposedly makes foods more digestible and hence more healthful. These opinions have long been held by orthodox dieticians and doctors. But when we analyze them from the standpoint of science, conclusions are inevitably reached which are a far departure from those commonly held.

Sylvester Graham was the first important hygienist who called attention to some of the evils of cooking. Whereas he did not insist that his followers always live exclusively upon raw foods he did stress the fact that "the artificial process of cooking is decidedly and often exceedingly inimical, not only to the physiological interests of the alimentary organs, but also to the whole human system." Graham saw, over a hundred years ago, what the orthodox world is just now beginning to see. He offered no vague philosophical theories about the relative values of cooked and uncooked foods but went straight to the science of physiology for his facts.

Graham is to be commended for his scientific approach to the question of cooking foods, something we cannot say for many of his followers. With Graham's death also came that of the scientific dietetics of the early and middle nineteenth century. The rebirth of the raw food movement under the inspiration of the German writer, Adolph Just (director of the *Junborn* in the Hartz Mountain region at Stapelburg, Germany), was based upon philosophy, religion and ethics. Just had no respect whatsoever for science and regarded "the voices of nature as the only true guides for life." He objected to the cooking process, not because of any scientific information he possessed but solely because it was not in accordance with Nature's plan.

George J. Drews, Julian P. Thomas and Eugene Christian followed Just as exponents of the raw food diet. They were divorced from a part of Just's nature-adoring philosophy but failed to provide the raw diet with any scientific respectability. It was left to the hygienists of the present day to employ the raw or near-raw diet successfully in a very large number of cases and thus to demonstrate its efficiency. However, even these cases have not attracted the attention of orthodox science. Those who handled them are too well known for their metaphysical and philosophican approaches to all matters dealing with health and disease. Most scientists are prone to identify the raw food diet with the tropical colonization plans of those who wish to eliminate, not only medical "science" and cooked foods but civilization itself. The works of Dr. G.R. Clements and his speculating satellites, though excellent they may be in many particulars, have, through their anti-civilization doctrines, tended to provide the raw food diet with an atmosphere of faddism. The diet must then be redeemed in the eyes of all those who have respect for the scientific method. It must be analysed from a strictly realistic standpoint. The practical results of feeding experiments and experiences of both man and the lower animals must be our guides. They alone must determine the ultimate value of the exclusive uncooked diet.

EFFECTS OF COOKING

Perfectly natural uncooked foods always contain the optimum amounts of vitamins and minerals. There is no known process whereby these elements, in their organic form, can be added to foods. Nature turns out the complete product; insofar as vitamins and minerals are concerned, it cannot be improved upon. Any change we make in the chemical composition of raw foods must then be destructive rather than constructive. It cannot add to the value of the food; it can only detract from this.

Cooking always changes the chemical composition of foods.It invariably causes the destruction of vitamins and minerals. Some of the elements are more readily destroyed than others. Vitamins A and C are more quickly destroyed by heat. Vitamin D is dissolved out of the food in the first boiling. The components of the vitamin B complex group are partially or completely destroyed. Appreciable amounts of riboflavin, one-third of the panthothenic acid, moderate amounts of pyridoxin, 72 per cent of the biotin, 50 per cent of the inositol, most of the folic acid, most of the thiamin and one-third to one-half of the niacin are lost in the cooking process. Of the minerals, Phosphorus, iodine and sulphur are lost first. Of course the loss is not always complete; if the cooking period is of very short duration, only one-fourth to one-half of the elements may be destroyed. Prolonged cooking may cause the loss of most or all of certain elements. The average loss, when the conventional methods of cooking are used, is about 50 per cent of the minerals and vitamins originally present in the food.

It is apparent from these facts that all cooked foods are devitalized and incapable of supplying the body with maximum amounts of minerals and vitamins. They are not, strictly speaking, "dead" foods, for they are not entirely devoid of the vital elements. In this respect they differ from refined sugar and refined flour, both of which are nearly devoid or completely devoid of minerals and vitamins. Nevertheless, the difference is one of degree only, both ordinary cooked foods and refined foods are denatured; they have been robbed of a large percentage of the elements which are essential for the support of life. The refined products will not support life at all; a diet of white flour and water produces death quicker than does a complete fast. The cooked foods will do a little better; they will support life for a limited period of time but only at a very low level. Frequently, when given as the sole source of nutritive matter to experimental animals, they support life for only a few months. Obviously, then, the loss of minerals and vitamins during the cooking process is of no small importance. It is certain to markedly lower the quality of the food. As a cause of ill health it must be given a prominent position.

Second in importance to the destruction of minerals and vitamins is the destruction of the roughage during the cooking process. When plants are cooked their rough cellulose material is broken down and softened. This may promote somewhat easier digestion, but only at a very high price. A certain amount of roughage in food is essential for normal elimination. It insures the rapid movement of foods through the digestive tract and thus prevents food stagnation in the large and small intestine. Cooked foods have a tendency to congest and clog the intestinal tract. They remain in the body so long decomposition and decay, with their resultant toxic end-products, become well advanced. Instead of passing through the body in 10 to 24 hours, the cooked foods frequently remain in the body several days; by the time they are eliminated the odor of decay is already offensive.

The combination of mineral, vitamin and roughage destruction plays havoc with all those who have used cooked foods. Chemical deficiencies and general toxemia are the inevitable aftermath. Specific diseases make their appearance. There is no escaping this. Chemical imbalance is a certainty, and in the face of this, health is imposible.

ANIMALS LIVE BEST UPON UNCOOKED FOOD

The superiority of the all-raw diet is best known when we consider the excellent physical condition of the undomesticated lower animals throughout the world. As everyone knows, these animals live upon food which is entirely natural, food which has not been altered in any way through the use of fire. And as for disease among these animals—well, with rare exceptions, there just isn't any. Throughout wild nature there is an exhuberance of positive health. Apart from man's interference, undomesticated animals usually pass their entire existence without suffering from the ravages of disease. The few pathological symptoms which have been found among wild animals are probably due to unclean food, food scarcity, tear, accidents, parasites or factors wholly unconcerned with the food supply. We may be sure that there are no deficiency diseases in wild nature. The pathology which does occur is largely due to the natural hazzards of the uncivilized and undomesticated life. It occurs so seldom as to be of little concern. Indeed, pathology in the animal kingdom is notable by its absence rather than its presence.

That the very good health of the wild animal is chiefly due to its diet is a fact proven beyond question or doubt, for it sucumbs to disease as readily as does man when it eats man's conventional foods. Pets, which eat a good deal of cooked foods, are rarely healthy. The animals of the circus and zoological garden, which are fed largely upon cooked food, suffer much disease and live but a short while. The lion suffers from all manner of disease and possesses a very short life span when its diet is confined to cooked meat. When raw meat is given, the lion regains its health and lives a normal life span.

The higher primates are particularly susceptible to the disease-producing influence of cooked foods. Baboons live in good health for 25 to 30 years upon uncooked foods, but suffer from many diseases, including loss of hair, respiratory ailments and intestinal disorders when fed cooked foods. In addition, their lives are materially shortened, never extending beyond 15 to 20 years at the very most. According to the Dyaks of Borneo, the orangoutang lives in wild nature fully 40 to 50 years longer than man. In captivity it is given canned fruit, bread, tea, and cotfeee and other cooked foods. Under these conditions it never lives long; usually the duration of life is much less than that of man. Diseases are common in captivity and include most of those which afflict civilized man. The chimpanzee quickly succumbs to disease when it is given cooked food. The most common of diseases are bronchial pneumonia, tuberculosis, typhoid fever, peritonitis, hypertrophied liver, debility, loss of hair, intestinal parasites, colds, inflammation of the lungs, measles, scarlet fever, grippe, cholera, ulcers of the tongue and skeletal diseases. Considered as a whole, these primates react in much the same manner as does man to cooked foods. Their lives are invariably shortened, and the type and amount of disease from which they suffer corresponds to that which one might find in any doctor's clinic.

Man's domesticated animals (pets excluded) are a lot better off than civilized man from the standpoint of health. For every one disease which afflicts them, their masters are busy combating twelve diseases. Twelve to one is quite a large ration but that's the way the figures stand. Just why most of man's domesticated animals are so much healthier than he is may be a matter of some dispute but the evidence seems to point to their better diet. The domesticated animals get a lot of raw foods. The cow will live all summer almost entirely upon grass, and even in the winter most of the food it eats is raw. The same is the case of many other farm animals. The more natural, uncooked foods eaten, the better the health seems to be.

All animal experiments which have thus far been carried out substantiate this apparent superiority of the raw food diet. Experiments with cats, for instance, have shown that these animals fare very badly on a diet which is restricted to cooked meat and pasteurized milk. They become ill frequently, and by the third generation they die before reaching maturity. Among the diseases which afflict them on this diet are poor dentition, underdevelopment, bow legs, paralysis, convulsive seizures, rickets, curvature of the spine, rachitic rosary of the ribs, enlarged colon, very soft bones. bronchitis, fatty infiltration of the muscles, undersized bones, degeneration of the motor nerve ganglion cells and flabby tissues. On the other hand, a diet of raw meat and raw milk suits the cat very well. It thrives upon it in good health. E.M. Pottenger Jr., M.D., and D.G. Simonsen found in their experiments with cats (reported in Vol. 39, Transactions, AM. Therapeutic Soc., 1939) that these animals attain the finest physical development on a diet of raw animal foods. They possess large skulls, thoraxes and bones. Their bodies are large and long, and the dental arches are broad and well formed. Excellent health and freedom from disease is the general rule among these cats.

Experiments with guinea pigs, to determine the effects of cooked foods, have been conducted by Dr. O. Stiner, an investigator of the Swiss Board of Health in Berne, Switzerland. Dr. Stiner placed a large group of these animals on a diet of their normal foods (hay, oats, carrots, and water) which would generally be taken raw, but which in this case were cooked in a high pressure steamer. A large number of diseases appeared shortly after the adoption of the cooked diet. The teeth became softened to such an extent that they could be cut away with scissors. Gangrenous gingivitis developed, and the jaw softened and warped until the rows of teeth overlapped and would not close in the normal manner. The salivary glands became diseased and the animals developed both goitre and anemia. In certain cases two teaspoon of pasteurized milk were added to the animals' diet each day, which induced the delopment of another serious disease, arthritis deformans. Most of the guinea pigs died of scurvy, with a smaller number of succumbing to cancer of the lung.

White rats, the chief experimental animals of the nutritional scientist, also are best adapted to raw foods. Sir Robert McCarrison has shown this quite clearly. This noted scientist placed over one thousand pedigree albino rats on a diet composed of raw cabbage, raw carrots, raw milk, raw meat, whole wheat flour, fresh butter, unleavened bread and sprouted Bengal grain. On this diet of nearly all raw foods all of the rats remained healthy, there was no death from natural causes among the adult stock, there was no infant mortality and the mothers all reared their young. At the end of two and a quarter years 1,189 of the rats were autopsied, and the only trace of disease found was an occasoinal cyst in the liver, which was assumed to have been due to the straw bedding which the rats often nibbled.

McCarrison also placed a large group of rats on the different types of diets used in India by the human population. These diets consisted largely of cooked foods and served as examples of the diets of many Americans and Englishmen as well as the people of India. The results were quite different from those obtained with the rats which were fed chiefly raw foods. Over 2,000 of these rats were autopsied, and the post-mortem examinations indicated the presence of a large number of diseases. Among these were tuberculosis, arthritis, pneumonia, pleurisy, Bright's disease, gastric ulcers, duodenal ulcers, glandular enlargements, inflammation of the eyes, anemia, loss of hair, infected teeth, infected tonsils, kidney ailments, intestinal diseases, stomach diseases and nervous ailments.

In addition to the experiments with rats, McCarrison carried out an experiment with 20 monkeys, indicating again the superiority of raw foods. The monkeys were captured in their native haunts where they have always lived on uncooked foods.Thorough examinations showed that every monkey except one was in perfect condition. The exception was the result of an injury sustained by one of the monkeys during capture. Nine of the monkeys were immediately placed on a diet of raw foods, including wheaten bread, milk, ground nuts, fresh onions, fresh butter, plantains and water. Six were given cooked wheaten bread, cooked rice, cooked milk, cooked ground nuts, fresh onions and water. The other five were given a similar assortment of cooked foods, fresh onions and water, with the addition of a little fresh butter. Regarding the monkeys fed only on raw foods, McCarrison says: "they remained in good health, with the exception of an attack of jaundice in some of them; this was thought to be due to the sudden lack of exercise, as well as to the too generous provision of monkey-nuts which in the earlier earlier stages of the experiment were not limited to 10 grams. The jaundice was corrected by reducing the diet to milk and bananas for a few days, and adding magnesium sulphate to the drinking water. After recovery, which occurred in all cases, the diet, as above detailed, was used without recurrence of jaundice or any untoward symptoms whatever."

The monkeys which were given the assortments of cooked foods did not fare so well. Every one of them died within 43 to 100 days. The average length of life of those given the cooked foods plus onions was 65 days. Those allowed a little butter each day lived an average of 69 days. The post-mortems of these monkeys indicated the presence of a wide variety of diseases and physical abnormalities including dilation of the stomach, gastric catarrh, stomach ulcers, carcinoma of the pylorus, duodenal catarrh, degeneration of the mucous membrane, intussesceptions involving the small intestine, congestive changes in the jejunum and ileum, ballooning of the small bowel, atrophy and thinning of the walls of the small intestine, colitis, ballooning of the colon, atrophy of the omentum, and cancer of the pylorus. Many of these diseases did not occur in just one or two of the monkeys but rather in several of them. It must be noted that these three groups of monkeys, the one group fed only raw foods, and the others given chiefly cooked foods, were provided with the same a mounts of exercise, sunshine and fresh air, etc. The sole determining agent as far as disease and the length of life were concerned was food, and the only important difference in the food was the condition, whether cooked or uncooked, in which it was given. Hence it must by assumed that it was the cooked diet which produced the great physical deterioration of the two groups of monkeys and that the raw diet was responsible for the good health of the other group. The fact that monkeys have a closer physical relation to man than do the other experimental animals—white rats, mice, guinea pigs and rabbits—give these experiments the greatest significance.

HUMAN EXPERIENCE

When we consider all of the evidence it becomes clear that among practically all of the lower animals the diet of uncooked foods is remarkably successful. These animals are practically disease-free on the raw diet if the other aspects of their lives are not interfered with too greatly by man. But what about man? Is he governed by a separate set of laws which do not apply to the thousands of species of other animals? Not if we are to accept the veredict of biology. The same physical laws which apply to all other animals also apply to a great extent to man. His experience with cooked and uncooked foods corresponds closely to that of the lower animals. As these animals become sick on the cooked diet, so does man. As they live on excellent health on the all-raw diet, man does likewise.

There are no primitive races which live exclusively upon raw foods although the majority of them partake in far greater measure of these foods than do civilized races. The Eskimo is frequently said to live upon uncooked flesh but these claims are unfounded. Only the smaller portion of the Eskimo diet is eaten uncooked; most of the meat used as food is either roasted or boiled. On the other hand, many of the healthiest primitives, such as the Polynesians of the Marquesas Islands, always consume all of their animal sea food (fish) with no preparation whatsoever. But we do not want to be satisfied with the state of health possessed by even the healthiest primitives. We want the highest physical development that is obtainable. To be sure, many primitive groups have perfect teeth, they present an unusually high degree of beauty, and they are immune to many diseases which are quite common in civilized lands. They preserve their youth better than other people, and often live to a very old age. Nevertheless, they are doubtless not as healthy nor as long lived as they might be under more ideal living conditions. It would be a good thing if civilized people could become as healthy as primitives but it would be still better if they could go further and build bodies which are even more highly immune to disease and senility. After all, the level of health in the wild animal kingdom is above that possessed by primitives. The rate of physiological aging is, on the average, slowest among the undomesticated animals. It would be better to make our goal a state of health equivalent to that of these animals than that of the primitives.

This does not mean that the primitives' experiences are not of value to us. A wealth of information relative to the effects of refined, modernized foods has been obtained by the studies of primitive races. But we should not stop here; there is far more to the newer knowledge of nutrition than that which the primitives have given us. By considering all available knowledge on the subject we can build better bodies than those possessed by the primitives of any land.

In Southern California, especially in the Los Angeles area, there are numerous people who live entirely upon uncooked foods, these generally of the plant kingdom. At one time the movement toward the raw diet was so popular in Los Angeles that a special cafeteria operated there which served only uncooked fruits, vegetables and nuts. The "raw fooders" of Los Angeles, as they are commonly called, value fruits above all else. The vegetables and nuts form the smaller portion of their diet.

Many years ago Prof. Jaffra, of the University of

Southern California, made a study of these raw fooders. He found them to be in excellent health with unusual freedom from colds and other ailments. Both children and adults were below average in weight, and in addition, the children were below average in heights. Prof. Jaffra called this a sign of undernourishment but we cannot support his viewpoint. It cannot be assumed that the raw fooders are undersized any more than it can that other people are oversized. Good health is the important thing, and whatever size in weight and height.

Other observations of the raw fooders in Southern California agree with those of Prof. Jaffra (except the conclusions reached regarding weight and height). In general, it is found that most of these people adopt an uncooked diet only after they suffer for years from ill health. Many were afflicted with degenerative diseases which had repeatedly been called medically incurable. But in spite of this fact, they acquired unique freedom from disease and immunity to disease upon the raw diet. They are usually below average in weight but this does not interfere with their good health nor tend to make them susceptible to disease. One thing has always been noticed very clearly: those who confined their diet to uncooked foods present a much higher immunity to disease than do those who adopt a diet corresponding to that used by the healthiest primitives. As good as the primitive diet is, it cannot, either in the case of man or the lower animals, produce a state of health corresponding to that which is obtained upon the all raw diet.

Arnold Estes, of Los Angeles, California, was once very active as an exponent of the raw food diet. He has published one of the best known books on the subject as well as a monthly magazine. Estes made a practical application of the uncooked diet, not only upon his own body, but also in the case of his ten children. In doing this he provided the world with one of the best clear-cut examples of just how effectively the raw diet could be applied to man. Even the comparatively healthy primitive children must take second place to those of Estes. Ten children all in perfect health, in possession of great strength and endurance, together with life histories from which the record of disease is notably absent; this is the picture we have before us. And the important thing is that this experience of Estes can be duplicated by anyone who follows his example. Estes has shown that most of man's nutritional requirements are not in a class by themselves. They are basically the same as those of other animals. Man has never possessed special physical needs which apply to him alone. He cannot escape the penalties of using cooked foods any more than can the rat, rabbit, guinea pig, dog, cat or monkey.

OBJECTIONS

In recent years a number of objections have been offered to the raw food diet. The first and most important of these concerns the question of digestibility. It is held that man has lived upon cooked foods for thousands of years. During this time he has supposedly lost the power to digest raw foods without discomfort and without irritation to the digestive tract. These foods are thus held as a cause of flatulence, colitis and ulcers.

Man has eaten cooked foods during a great part of his history. Even the Pekin Man, who lived from 500,000 to 1,000,000 years ago, probably ate cooked meat as is indicated by the numerous fire-charred animal bones found near his skeletal remains. However, this does not mean that we should do the same; nor does it mean that our digestive tracts are by now well adapted to the use of cooked foods. The greatest prevalence of digestive ailments today is found among those who use the most cooked foods. Civilized people the world over cook their food very thoroughly until all roughage has been softened and the food made anything but irritating. But at the same time they are highly susceptible to ulcers and colitis, ailments which are seldom or never found among primitive races which live largely upon raw foods. People suffering from severe digestive disturbances have fasted to recovery and followed the fasts with permanent all raw diets with no recurrence of troubles. However, only temporary results often occur in such cases if conventional diets of soft, cooked foods are employed after the fasts. The irritating properties of raw foods are imaginary. These foods prevent colitis and ulcers rather than cause them.

It is true that some people suffer from digestive discomfort (usually in the form of intestinal gas) when they employ the raw diet. But in practically every case this is due to failure to masticate their foods sufficiently. Raw foods should be chewed thoroughly until they are well insalivated and completely liquified or broken into very small particles. If this is done they will not produce discomfort and will be digested easily. The first stage of digestion begins in the mouth and will not be carried to completion without thorough mastication.

The second objection to the raw food diet is that uncooked foods are unpalatable. Cooking is said to be necessary to render most foods pleasing to the taste. A raw diet, it is claimed, would remove the joy from eating. It would thus be impractical even if it were the most healthful diet.

Man's choice of food is largely determined by habit, custom and tradition. He likes cooked foods because he has always eaten them. But those whose taste buds have never been perverted by the use of the conventional civilized diet, cooked foods are not particularly desired. We may consider raw meat to be the most distasteful of foods but any South Sea Islander, who still uses his native diet, would make a terrible fuss if you tried to cook his fish. To him, whole, raw freshly killed fish is a prized delicacy.

Uncivilized humans who exist upon raw foods throughout their childhood must be trained to adopt the cooked diet. The press of Dec. 7, 1930 reported the case of young infant which had been captured by a large baboon in Africa. For thirteen years thereafter this young human lived with the baboons in their wild habitat. At the age of fourteen years he was captured by hunters and taken back to his mother. It was soon noted that the boy was "tremendously powerful," being capable of using a 14 pound sledge hammer in the blacksmith shop and turning a heavy lathe all day without the slightest trace of fatigue. The mother has never been able to make him eat cooked food. He lives on raw vegetables and fruits, raw fish and eggs, and such flies and bugs as he catches and eats alive.

A similar case, involving the experiences of a "Female Tarzan" found in the forest of the Carpathian Mountains, was reported in the press of March 3, 1935. This wild girl was captured in a remote district where bears, wolves and wild boars abound. Prior to the capture she put up a great fight with a large number of brawny lumbermen and exhibited "superhuman strength." Investigation disclosed that the girl was Joanna Mandrilla, one who had disappeared from her farm home several years before. Taken to an asylum, she refused all prepared food but consumed with relish flowers, plants and grass. As in the case of the baboon child, raw foods were invariably given preference over those which have been cooked.

In 1940 Ernie Pyle reported a case of a young child who had lived alone in the jungles of El Salvador between the ages of two and five. During this time he lived upon live fish, tropical fruits and herbs. After his capture it was reported that he "would not eat cooked foods" though he took great delight in consuming raw meat and raw fruit. There is also the incident of the 14 year old "gazelle boy" which was reported in the press of Aug. 28, 1946. Possessing a splendid physique and being capable of almost unbelievable physical feats. (Riding in a jeep, the hunters, who found the boy living with the gazelles in the Syrian desert, said that he ran more than 50 miles an hour.) The boy found satisfaction in a diet composed exclusively of grass, roots and water. Even after being taken to an asylum the boy would graze on the asylum lawn rather than consume food which had been cooked.

These cases have been mentioned here because they demonstrate the role which habit plays in the choice of food. We can train ourselves to like raw foods as well as we have trained ourselves to like cooked foods in the past. In fact, we may gain more enjoyment from the raw diet than we ever did from any other. It is an unquestioned fact among observers that those who exist entirely upon raw foods often get fully as much pleasure from eating a piece of raw juicy fruit as you ever did from the choicest pastry. From the standpoint of palatability the raw diet is equal or superior to any other.

Of course there are a few foods such as certain grains and vegetables which never appeal to the taste before being cooked. But such foods are not indispensable. There are a hundred upon hundreds of foods which are most palatable in their uncooked state. This great variety dismisses any idea that we must continue eating those foods which require cooking.

Perhaps the most rapid method of accustoming yourself to the flavor of raw foods is to fast. Many who continually complain that the raw diet does not satisfy them, fast several days and them notice that it provides all they could ask for. A perverted appetite is often normalized while fasting. The craving for many of the cooked foods of civilization is lost and the desire for the natural, uncooked food is increased. This does not mean that you can no longer enjoy all foods after a fast, but it does mean that you will probably find the raw food diet, in itself, perfectly satisfying.

THE FINAL SOLUTION

The decision as to whether or not man should consume cooked foods is self-evident. The evidence is so conclusively in favor of the all-raw diet that this can hardly be made a matter for further debate. The axiom of all scientific dietetics is this: the closer a food is to its natural, uncooked, unchanged condition, the better is that food adapted to support life. Nature supplies man and all other animals with food in the form which is in accordance with the body's requirements. Her foods have yet to be improved upon.

The greatest discovery of all time was that of fire. When man learned to use this principle of combustion he took the first step to the present highly industrialized civilization. But this was not all; with the discovery of fire came the first wide prevalence of disease of man. Had man confined the use of fire to technical uses and those of self protection we would today be a healthy race with a bright evolutionary future. As things now stand, anthropologists often do not hesitate to predict the eventual extinction of the human race. It can be said that the greatest single cause of degeneration in man is the use of fire in the preparation of foods. If man's evolutionary course does lead downward to extinction it will be cooked foods which will bear a major responsibility for his plight. If he regains his post as that of a strong, healthy animal, it will no doubt be due in part to his greater use of raw foods.

It cannot be denied that short cooking and steaming foods is less destructive than the conventional methods. But this cannot be used as a logical excuse for cooking. After all, there is really no such a thing as scientific cooking. The so-called scientific methods are, at most, simply compromises. They are of value only in the sense that they lower the value of foods less than does the conventional cooking art. We must dispense with cooking as such, and stop looking for substitutes.

The all-raw diet is ideal for man. The fact must be recognized by all those who hope to follow a rational system of therapeutics or a healthful mode of living. Doctor and layman alike must place the greatest importance upon uncooked foods. The cookstove must be relegated to the dark ages of man's dietetic history. The need in the animal world for natural, uncooked foods was established through a billion years of dietetic habits. Man cannot, in his very short existence upon earth, alter this need. Any attempt to do so must be met with physical degeneration, early senility and shortened life span. No other conclusion based upon scientific analysis can be reached.

CHAPTER 8

The Fruitarian Diet

Planning the Perfect Nutritional Regime

For centuries there have been movements, organizations and groups which have sought to prove that man should not use meat in his diet. Likewise, there have always been many who claimed that no animal food of any kind, not even milk and eggs, should be used by man. Others have taken the middle of the road and condemned meat and eggs but permitted the use of milk. The first class, those who object to meat only, are commonly called lacto-ovo vegetarians. The second class, those who object to eggs as well as meat, but permit milk in the diet, are lacto vegetarians. The third class, using only foods of the plant kingdom, are strict vegetarians.

The motives which provide the incentive for the activities of these various types of vegetarians are founded upon a mixture of ethics, philosophy, religion and science. Some of the vegetarians object to meat as a food because it calls for the slaughter of animals. This slaughter they regard as immoral and say that involves too much cruelty. Others, who use the religious argument, claim that the Bible speaks in favor of the exclusive diet of plant foods. A few of the vegetarians object to eggs and milk because using them for human food is supposedly interfering with normal plans of Nature. By using these foods they claim that we become parasites of the chicken and the cow. Occasionally you will find a vegetarian who believes that by eating flesh foods man developes a tendency to be cruel, which leads to war. And last but not least, we have the vegetarians who insist that we should live upon the spare parts of the plants only. They claim that our eating habits should comform to the "symbiotic norm" of Nature, this calling for cooperation rather than plant and animal destruction. These vegetarians do not recommend root vegetables, such as carrots and onions, because using them calls for the destruction of the entire plant.

The vegetarian movement was doomed from the start because the leaders failed to come to any agreement as to what constitutes a normal vegetarian diet and because they injected ethics, philosophy and religion into what should be strictly a science. People are often quite willing to live upon plant foods in order to retain their health but they are less interested in being kind to animals and eating according to Biblical instructions or according to the so-called laws of symbiosis. Scientists likewise are interested in the plant food diet insofar as it affects the development of disease, but they do not care to study the moral affects of using animals foods. And all this is well and good. Ethics, philosophy and religion have no place in the modern science of nutrition. The hygienic value of any diet which excludes one or more animal foods should be determined by science and science alone.

When we do go to science we find that the plant food diet is very effective. Indeed, the greatest amount of evidence seems to favor the viewpoint that no animal food of any kind is suitable for the human body to use and that they all help to produce disease. But this does not mean that just any plant food diet will produce good health. In fact, most of them won't. The diets of many strict vegetarians are very poorly balanced and are in no sense health-building. They often lead to a physical condition which is inferior to that of people who use a mixed diet of both plant and animal foods.

The really healthy plant eaters—those who possess the finest bodies and who are highly immune to disease—are the fruitarians. The fruitarian diet is composed of the products of the plant kingdom which are delicious and appealing to our taste in their natural uncooked condition. As fruits, vegetables and nuts are the foods which meet this qualification in an ideal manner they are the primary foods used by the fruitarian. The strict vegetarian diet differs chiefly from that of the fruitarian in that it usually is formed predominantly of cereals, bread and starchy root vegetables, whereas the fruitarian diet is composed chiefly of fruits. Most vegetarians do not even approach the fruit-vegetable-nut ideal. Their diets are not to be confused with that of the fruitarian.

At first glance the fruitarian diet perhaps appears to hinge on the borderline of fantasy. It calls for revolutionary changes in the conventional plan of nutrition. But, nevertheless, viewed from the standpoint of science, the fruitarian diet is ideal for man. This is best seen when we consider man's anatomical structure, his protein needs, his carbohydrates needs, the alkalinity of the body fluids and the effects of the specific animal foods upon the human body.

COMPARATIVE ANATOMY

First let us have a look at the relationship between the dietary habits and anatomical development of the various animals. Animals may be divided into several groups according to their dietary habits. They are the herbivora, carnivora, graminivora, omnivora and frugivora. The herbivora are plant eaters. They thrive best on a diet of coarse plants, tubers and various kinds of grasses. The cow, horse, sheep, deer and most other grazing animals are in this class. The carnivora are those which live chiefly or entirely upon animal flesh and include such animals as the fox, wolf, lion , and tiger. The graminivora are the animals which live largely upon cereals and grains and the seeds of all types of grasses. These are restricted chiefly to the bird kingdom. However, even so, few birds are stricly graminivorous, for in addition to the grains and seeds they eat an abundance of insects and worms. The omnivorous animals use a mixed diet consisting of both animal flesh and many kinds of plants. The frugivorous animals live upon fruits, nuts and the tender shoots, roots, buds and leaves of plants. Their diet is really a fruitarian diet or a very close approach to one. Among the frugivora are the higher members of the primate family (as well as some of the lower primates) including the chimpanzee, gorilla, orangoutang and gibbon. On rare occasions (probably in times of food scarcity) the gibbon and possibly the other higher primates may eat a few bird's eggs or insects, but their normal diet remains fundamentally one of fruits, plants and nuts.

Now the problem is to decide which of these goups man is a member of. At first it might be thought that man is by nature an omnivorous animal, for he divides his diet pretty evenly between plant and animal foods. But a close investigation reveals that man's anatomical structure does not resemble that of the omnivorous animals at all. Nor does it resemble those of the carnivora, herbivora or graminivora. From every standpoint man bears the closest relation to the frugivorous animals. His digestive tract and skeletal structures are similar to those of the higher primates and distinctly different from those of the other animals.

Naturalists have always claimed that the normal dietary habits of animals are invariably related to their patterns of dentition. Paleontologists classified the dietary habits of prehistoric fossil animals according to the number and type of teeth these animals possess. Each of the five distinct types of animal life possesses dental patterns characteristic of it alone. It is noteworthy in this connection that man's teeth closely resemble those of the anthropoid apes and are entirely different in both number and type from those of other animals. The gorilla, chimpanzee, and orangoutang each have 32 teeth. These include 12 molars, 8 bicuspids, 8 incisors and 4 cuspids, exactly the same in order and number as those of man. It is true that man possesses small canine teeth (cuspids) but this does not make him a carnivorous animal as many would have us believe. Even the anthropoid apes have canine teeth, larger in fact, than those of man. The possession of canine teeth obviously does not call for flesh eating or we would not find these animals with frugivorous dietary habits. Unless we are to disregard the findings of paleontology and anthropogenesis we must regard man's dental pattern as evidence that he is a frugivorous animal.

The small intestine of all the higher primates is much longer, in proportion to body length, than that of the carnivora. The intestinal tract of man is about 12 times the length of its body; that of the carnivora is three to four times the length of its body. The different lengths serve specific purposes. The shorter the tract, the more rapidly the food is disposed of and the less time it has to putrify. The longer the tract, the longer the food remains in the body and the longer time it has to digest thoroughly.

When flesh is eaten by carnivorous animals it passes through the intestinal tract before putrefaction has becomed well advanced. Thus, few toxic end-products are produced. Perhaps one of the reasons why many birds of prey are able to live such extraordinarily long lives is that their intestinal tracts are among the shortest possessed by any animals. Their feces contains almost no bacterial flora, indicating very little putrefaction.

The frugivorous animals, including man, possess intestinal tracts which fail to permit the digestion of animal flesh in the absence of considerable putrefaction. The rich bacterial flora and offensive odor of the feces of meat eaters is evidence of the great amount of putrefaction which has taken place. Man's intestinal tract is adapted to fruits, vegetables and nuts. These foods remain in the body long enough to permit thorough digestion with very little putrefaction. There is little or no bacterial flora in the feces of fruitarians.

Also worthy of note are the great differences in the stomachs of the various animals groups. The stomach of each group appears designed or developed according to the nature of the food which is eaten. The stomach of man is divided into cardiac and pyloric portions, and its inner surface is covered with wrinkles called corrugations or rugae. The stomach of the carnivora and omnivora is a simple, roundish sack, and possesses no corrugations. The stomach of herbivorous animals, on the other hand, is very complicated, lying transversely across the abdomen, and divided into three to seven compartments (usually three or four). Each particular type of stomach is adapted to given types of food. The simple stomach of the carnivora is well adapted to the digestion of animal flesh, but it is in no sense capable of digesting the coarser grass of the herbivora. Man's stomach can easily handle fruits, tender plants and nuts, but it does not meet with complete success in handling all other types of food. The stomach of the herbivora is specifically adapted to the digestion of coarser grasses and herbs. Each type of stomach has its digestive limitations, and we must not go beyond these limitations if we desire and expect the best health.

Naturalists, anatomists and zoologists have uniformly recognized these points, insofar as they affect man's place in nature and his normal dietetic character. Linnaeus ranked man zoologically with the Order of Primates because of his similarity of body organization with animals of that group. He said that man's organism, when compared with that of other animals, shows that "fruits and succulent vegetables constitute his most natural food." Huxley, the famed British naturalist in indicating man's exact position in the Order of Primates, asserted that whatever "systems of organs may be studied, the comparison of their modifications in the ape series leads to one and the same result—that the structural differences which separte man from the gorilla and chimpanzee are not as great as those which separate the gorilla from the lower apes." The German naturalist, Haechel, affirms this decision and claims that man "is more nearly related to the highest apes than are the latter to the lowest apes."

Cuvier, in his day, was perhaps the highest authority on comparative anatomy. In referring to man's dietetic nature, he declared: "The natural food of man, therefore, judging from his structure, appears to consist of fruits, roots, and other parts of succulent vegetables—and his hand offers every facility for gathering them. His short and moderately strong jaws on the one hand, and his cuspids being equal in length to the remaining teeth, and his molars on the other, would allow him neither to feed upon grass nor devour flesh, were these foods not previously prepared by cooking."

Thomas Bell, lecturer on anatomy at Guy's Hospital in London, has stated in his Physiological Observations on the Natural Food of Man Deduced from the Character of His Teeth: "The opinion which I venture to give has not been hastily formed, nor without what appeared to me sufficient grounds. It is not, I think, going too far to say that, every fact connected with human organization, goes to prove that man was originally formed a frugivorous animal, and therefore probably tropical, or nearly so, in his geographical situation. This opinion is principally derived from the formation of his teeth and the digestive organs, as well as from the character of his skin and general structure of his limbs. If analogy be allowed to have any weight in the argument, it is wholly on the side of the question which I have just taken. Those animals whose teeth and digestive apparatus most nearly resemble our own, namely, the apes and monkeys, are undoubtedly frugivorous."

Other anatomists follow a similar train of thought. Professor Lawrence, the English anatomist, remarks: "Whether, therefore we consider the teeth and jaws or the immediate instruments of digestion, the human structure closely resembles that of the simia or monkeys, all of which, in the natural state, are completely frugivorous." Sir E. Ray Lankester follows with his statement referring to man as "originating probably in the East, in a warm but not a tropical climate, feeding on rich and abundant fruits, he yet gradually spread over the whole world, and does not show any material modification of structure—no modification so great as to prevent interbreeding."Dr. Richard Lehne, after making an exhaustive comparative-anatomical study, sums up his conclusion in the following words: "quite apart from the physiological findings of nutritional science, which perpetually alter and are always in an unsettled form, comparative anatomy proves—and is supported by the millions-of-years-old documents of palaeozoology—that human teeth in their ideal form have a purely frugivorous character."

On the following page is reproduced a chart from Emmet Densmore's How Nature Cures, published in 1892. In spite of the early origin of the chart, over a half a century ago, the facts presented hold true today as well as then, and

COMPARATIVE ANATOMY

CARNIVORA	OMNIVORA	HERBIVORA	Anthropoid APE	MAN
Zonary placenta	Placenta non-deciduate	Placenta non-deciduate	Discoidal placenta	Discoidal placenta
Four-footed	Four footed	Four-footed	Two hands and two feet	Two hands and two feet
Have claws	Have hoofs	Have hoofs	Flat nails	Flat nails
Go on all fours	Go on all fours	Go on all fours	Walks upright	Walks upright
Have tails	Have tails	Have tails	Without tails	Without tails
Eyes look sideways	Eyes look sideways	Eyes look sideways	Eyes look forward	Eyes look forward
Skin without pores	Skin with pores	Skin with pores (save with pachyderms as the elephant)	Millions of pores	Millions of pores
Slightly developed incisor teeth	Very well-developed incisor teeth		Well-developed incisor teeth	Well-developed incisor teeth
Pointed molar teeth	Molar teeth in folds		Blunt molar teeth	Blunt molar teeth
Dental formula: 5 to 8.I.5 to 8 5 to 8.I.6.I.5 to 8	Dental formula: 8.I.2 to 3.I.8 8.I.2 to 3 .I.8	Dental formula: 6.0.0.0.0.6 6.I.6.6.I.6	Dental formula: 5.I.4.I.5 5.I.4.I.5	Dental formula: 5.I.4.I.5 5.I.4.I.5
Small salivary glands	Well-developed salivary glands	Well-developed salivary glands, especially in ruminants	Well-developed salivary glands	Well-developed salivary glands
Acid reaction of saliva and urine	Saliva and urine acid	Saliva and urine acid	Alkaline reaction saliva and urine	Alkaline reaction saliva and urine
Rasping tongue	Smooth tongue	Smooth tongue	Smooth tongue	Smooth tongue
Teats on abdomen	Teats on Abdomen	Teats on abdomen	Mammary glands on breast	Mammary glands on breast
Stomach simple and roundish	Stomach simple and roundish, large cul de sac	Stomach in three compartments (in camel and four in some ruminants)	Stomach with duodenum (as second stomach)	Stomach with duodenum (as second stomach)
Intestinal canal 3 times length of the body	Intestinal canal 3 times length of the body	Length of intestinal canal varies according to species, but is usually 10 times longer than body	Intestinal canal 12 times length of the body	Intestinal canal 12 times length of body
Colon smooth	Intestinal canal smooth and convoluted	Intestinal canal smooth and convoluted	Colon convoluted	Colon convoluted
Lives on flesh	Lives on flesh, carrion and plants	Lives on grass, herbs and plants	Lives on fruit and nuts	Lives on fruit and nuts

should remove, once and for all, any doubt as to man's origin as a frugivorous animal. Our basic konwledge regarding comparative anatomy was acquired in the nineteenth century through the work of such naturalists as Darwin, Huxley, Haekel and others. The facts given in the chart are in complete accordance with the findings of these men, as well as those of the naturalists and comparative-anatomists of the present day.

It may be mentioned, in connection with the chart, that the classification of man's diet and urine appear to have been made in accordance with his structure and physiology rather than from what one might observe in the world of civilized man. It is well known that man is not presently living upon fruits and nuts and that his urine is not alkaline, but since man's structure and physiology imply the use of frugivorous diet, and since such a diet produces an alkaline urine, the classifications were apparently made with those thoughts in mind.

There is no need here to go into complete detail regarding every aspect of comparative anatomy. Sufficient facts have been given to indicate that man must be classified with the frugivorous animals. In every particular—the formation of the teeth, the shape of the stomach, the length of the small intestine, the location of the milk glands, the size of the salivary glands, the size of the liver, the type of placenta, the shape of the extremities, etc., etc.,—man represents the arch-type of frugivora. In no particular does he resemble either the carnivora, herbivora or omnivora.

As a rule, medical writers and vegetarians alike fall into the same error in determining man's dietetic character. Almost invariably they divide the animal kingdom into three two or three distinct groups—carnivora, herbivora and occasionally omnivora. The medical writers go to great length to show how man's anatomical structure differs from that of the herbivora. Vegetarians, on the other hand, make every effort to point to the differences between man and the carnivorous and omnivorous animals. Both groups are naturally successful. It is a simple matter to show how man differs from the herbivora, and it is equally simple to show how he differs from the carnivora and omnivora. What medical writers fail to point out is the difference between man and the flesh-eating animals, and what vegetarians fail to point out is the difference between man and the grass-eating animals. Both groups completely fail to recognize that a frugivorous class of animals even exists. They appear to be unaware of the basic findings of peleontology, anthropogenesis and zoology. As a result their analysis must be incomplete and their conclusions must be inaccurate.

The facts regarding the comparative anatomy show the fallacy of attempting to apply to man the results of flesh eating among white rats (as is continually being done by university investigators). They also indicate the fallacy of attempting to prove that, because a certain group of carnivorous, omnivorous or herbivorous animals fare well on a certain diet, a similar diet would be well suited to man. Each animal group has its own dietary needs and limitations, determined largely by the animal's anatomical structure.

Man's place in nature is clear. His evolutionary trend has provided him with a body similar to that of the other frugivorous animals. Like his near relatives he has an anatomical structure that dictates the advisability of using fruits, tender plants and nuts as his basic foods.

THE QUESTION OF PROTEINS

The building blocks of protein consist of 21 amino acids. Nine of these have been proven to be essential for the support of life and growth. A few others are "convenient" in the sense that animals thrive better if they get them. Proteins which contain all of the essential amino acids as well as the convenient ones, are called complete or first class. A food which contains complete protein will support life and growth if used as the sole source of protein in the diet. The foods which contain incomplete protein will not in themselves support life and growth.

It is often claimed that the difficulty of obtaining complete proteins on a fruitarian diet makes such a diet dangerous except when in the hands of an expert. But this is really not so. A child living upon the fruitarian diet could hardly keep from getting sufficient complete protein if he simply used the plant foods according to his own instinctive desires. After all there is an abundance of plant foods which supply us with complete proteins of the highest biological value. The researches of Cajori, Van Slyke and Osborn have shown conclusively that the protein of most nuts is of the very finest type and contains all of the essential and convenient amino acids. Among the nuts possessing complete proteins are butternuts, pecan, filberts, Brazil nuts, English walnuts, black walnuts, almonds, pine nuts chestnuts and coconuts.

In addition to being complete, the protein of most nuts is of high biological quality. Investigations at Yale University and the research work of Dr. Hoobler, of the Detroit Women's Hospital and Infant's home, both demonstrate the superiority of nut-protein. The methods of research used by Dr. Hoobler provided a most delicate biological test of the protein of food and it showed that the protein of nuts not only provides greater nutritive efficiency than that of meat, milk and eggs but that it is also more effective than a combination of the animal proteins.

Coconut globulin is perhaps the best of the nut proteins. Johns, Finks and Pacel, of the Protein Investigation Laboratory of the U.S. Department of Agriculture, found that this protein produced supernormal growth in young rats when used as the sole protein in the diet. In other words, the rats grew more rapidly than they would have if given meat, eggs, milk or any other high protein food. Mc Candish and Weaver have also found that the protein of coconuts is superior to that of other foods, and claim that coconut meal is of greater value than soybean meal. As the soybean is equal in biological value to any of the animal proteins, this would mean that the coconut protein is in a class by itself and is perhaps the finest protein known.

No fruitarian need have any worries over his protein supplies. Any well-balanced selection of plant foods should meet the body's protein needs very well; in fact, it will meet them far better than the omnivorous diet for it supplies the protein in just the right amounts.

All available evidence indicates that a low protein diet composed of plant foods is most conducive to the best health. In the 19th century two great German scientists, Justus Freiherr von Liebig and Karl von Voight, carried out experiments to determine how much protein the body requires each day. Liebig assumed that, because muscle is composed largely of protein, we should use a diet which is very rich in this dietary factor. Later Voight carried out experiments with dogs, the result of which led him to believe that the daily human requirement is 118 grams.

It is now known that the conclusions of Liebig and Voight are not accurate. Muscles can be built from plant foods which are relatively low in protein content as well as they can from animal flesh. And the experiments with dogs carried out by Voight can hardly be applied to human beings, for the protein requirements of dogs and other carnivorous animals differ from those of the frugivorous animals.

The most accurate present day estimates of the body's daily protein requirements vary from about 22 to 30 grams. These estimates are based upon experiments with humans. Prof. Henry Sherman, of Colombia University, places the daily requirement at 30 to 50 grams but it is probable that the other estimates, which include those of the Swedish scientist, Ragner Berg, are more nearly correct. However, even 30 to 50 grams of protein is not much. It could easily be supplied by a diet of plant foods.

Dr. Mikkel Hindhede, of Denmark, made the first mass application of a diet very low in its protein content to an entire nation. During World War I this doctor was made Food Administrator of Denmark. In an effort to prevent food shortages he greatly lowered the production of livestock and fed the plant foods to the human population rather than to the animals. As an average of only 10 per cent of the value of plant foods is recovered in the milk, eggs and meat of animals, it is obvious that this involved a great saving from the standpoint of nutrition. But Hindhede eventually discovered that the diminished use of animal foods meant far more than that. Within one year's time the death rate had lowered 40 per cent. In addition, the Danish people acquired a greater resistance to disease. When the great influenza epidemic spread through Europe only Denmark escaped. The other nations, using their high protein diets consisting largely of animal foods, suffered greatly. Their people died by the thousands.

Nuts are rich in protein, but they are not used to such an extent in the fruitarian diet that the body receives an excess of this material. The normal desires of the fruitarian call for a wide variety of plant foods with no particular dependence upon nuts. Fruits are the chief foods used and the desire for nuts is in accordance with the body's need for protein. Meat, eggs, milk and cheese—these are all high protein foods which are not needed. Their excessive protein acts as a burden to the body and favors the development of disease.

THE BEST SOURCE OF CARBOHYDRATES

In addition to supplying the body's protein needs in an ideal manner, the fruitarian diet supplies the proper amounts of carbohydrates in a form which the body can use most easily. Carbohydrates are divided into two classes, starches and sugars. Before the starches can be absorbed by the blood they must undergo a long process of digestion which changes them into a form of sugar. This sugar represents a starch in a state of complete digestion and can be used almost immediately by the body.

Sugars, as they are found in the sweet fruits such as dates, bananas, grapes, persimmons, etc., are practically predigested. They are the finest form of carbohydrate. Instead of undergoing a long process of digestion as do starches they are ready for almost complete absorption with very little or no digestive work required. This is most economizing from the standpoint of the body's available store of energy, for whatever energy is not used in the process of digestion may be used for other purposes. Starch digestion involves an unnecessary expenditure of energy on the part of the body. How much better it is to get your carbohydrates in the form of fruit sugars which are quickly and readily absorbed and assimilated with a minimum of effort.

The primary sources of carbohydrates in the conventional diet are grains and root vegetables. These foods are starchy foods and unless they are thoroughly cooked (which causes a great mineral and vitamin loss) they contain little or no sugar. Even after the cooking process, however, the carbohydrates in these foods usually require much digestion. In the case of grains, cooking alters but little the starches and never changes them to sugars. The root vegetables such as white potatoes are helped a little more. After they are cooked, their starch requires less digestion than raw starch. However, it is in no sense equivalent to the sugars found in fruits.

In the fruitarian diet the use of starches is reduced to a minimum. The primary source of sugar is fresh ripe fruit. The sugar content of most juicy fruits varies from 10 to 20 per cent whereas the sweetest fruits, such as dates and dried figs, often contain as high as 70 per cent pure sugar. It is the popular opinion that bananas are a starchy food but a really ripe banana contains almost no starch. In the ripening process the starch is changed to sugar. The primary starches found in the fruitarian diet are those of the vegetables and to a lesser extent, some nuts. Considered as a whole, the fruitarian diet is low in starch, containing only a small fraction as much starch as does either a vegetarian or conventional diet. But it does provide us with ample amounts of carbohydrate and these in their finest available form, as sugar.

HYPO – ALKALINITY

In order to preserve the best health the normal alkalinity of the body fluids must not be reduced to any great extent. All of the cells of the body are bathed in alkaline fluids; only in a state of death can these fluids become acid. However, even the slightly lowered alkalinity of these fluids can disturb body functions. The patient who suffers from a lowering of alkalinity is said to possess hypo-alkalinity or, as it is more commonly called, acidosis. His blood and other body fluids are not acid but possess higher acidity and lower alkalinity than they should.

Hypo-alkalinity of the body fluids is a prominent cause of toxemia with its resultant disease. In addition, it greatly depletes the alkaline mineral reserves. The body uses its alkaline mineral salts to neutralize acids, and if these acids are allowed to accumulate excessively the alkaline minerals will be leached from the tissues to serve their purposes. Many deficiency diseases result from just such conditions. The acids exist in too great amounts and the alkaline reserves of the body are not sufficient to neutralize them. If the body does not then draw upon its own tissues for these elements there is a progressive acid saturation of the body, a really toxic condition. Under any circumstances the victim must suffer. Either his body is depleted of its vital minerals or it is poisoned by an excess of acids.

Now understand, acids in themselves are not harmful unless they are found in excessive amounts. As long as the body's reserve alkaline salts are capable of neutralizing them no harm is done. But the conventional diet does not allow the body to acquire an adequate alkaline reserve, nor does it prevent the development of an excess of acid elements. Refined foods are generally robbed of their alkaline minerals and hence they leave an acid-ash after being used by the body. Meat, cheese, eggs, nearly all cereals and most nuts—these are all acid-ash foods. The alkaline foods are milk and nearly all fruits and vegetables, the chief exceptions being prunes, plums and cranberries. The normal ratio of alkaline elements to acids in the body is 80 per cent to 20 per cent, and the same ratio should be applied to the diet used. If at least 80 per cent of the foods used are formed predominately of the alkaline minerals the alkaline reserve will be normal and the body will not have to obtain these elements from its tissues in order to neutralize the acids. Also, if the acid-ash foods are kept down to the 20 per cent level the number of alkaline elements required to neutralize the acids will be relatively small. Under such conditions the body functions smoothly. It does not suffers from acid excesses and it retains a strong alkaline reserve which removes the need for sacrificing the alkaline elements of the tissues.

Neither the average strict vegetarian nor the conventional omnivorous diet supplies the alkaline and acid elements in their proper ratio. Both diets lack sufficient alkalies and they supply a great excess of acid-ash foods. The vegetarian, getting, as he usually does, too many cereals and too much bread to the exclusion of the alkaline fruits, is bound to suffer to some extent from hypo-alkalinity. The omnivorous diet, in supplying many acid-ash foods such as meat, cheese and eggs, as well as acid-ash plant foods, fails completely to provide the body with the alkaline elements it needs. In addition, the omnivorous diet contains too much protein. The end-products of the protein excessess are uric acid, phosphoric acid, nitric acid, and sulphuric acid. These must all be neutralized by the alkaline bases before they can be eliminated by the body.

The perfect diet from the standpoint of supplying the correct ratio of alkalies and acids is the fruitarian diet. It is the one diet which provides both an abundance of alkaline elements and small amounts of acid elements. The chief portion of the fruitarian diet is composed of fruits and vegetables which supply the alkaline elements. The smaller part of the fruitarian diet is composed of nuts. These supply the acid elements. The fruitarian diet does not provide an excess of protein and this also helps to prevent hypo-alkalinity. In order to keep the proper ratio between the alkaline and acid elements in your fruitarian diet you don't have to watch every mouthful of food you eat to make sure that you are not getting an excess of acid-ash foods. Nature takes care of that pretty well. As a general rule, the normal desires of the fruitarian call for a preponderance of the alkaline foods, and only small amounts of the others. Probably every fruitarian who uses all of his food in its uncooked state strikes a fairly close proximity to the 80 per cent alkali and 20 per cent acid ratio whether he makes any special attempt to or not. The desire for alkaline foods on the fruitarian diet serves a physiological need and practically insures the fruitarian against hypo-alkalinity. It provides him with an alkaline reserve which is sufficient to meet all existing needs, and also supplies him with the proper amounts of acid elements.

HOW MEAT LOWERS ENDURANCE

The experiments of Prof. Irving Fisher, of Yale University are the most extensive yet carried out to determine the relation between meat consumption and endurance. In these experiments 49 persons, a mixture of lacto-ovo vegetarians and flesh-eaters, took part. Many of the meat eaters numbered among the best athletes of the University. The vegetarians included some athletes, together with physicians and nurses of the Battle Creek Sanatorium, a vegetarian institution.

Three endurance tests were given—1. Holding the arms in a horizontal position as long as possible, 2. Deep knee bending exercises, 3. Leg raising while lying on the back.

The results of the first test were a complete victory for the vegetarians. Only two of the meat eaters held their arms in a horizontal position for 15 minutes; none of them did so for 30 minutes. Twenty-two of the 32 vegetarians held their arms in a horizontal position for 15 minutes or longer; of these, nine exceeded one hour, four reached two hours and one of them exceeded three hours.

In the leg raising test the highest record was made by a flesh eater , though when the records of all the contestants were averaged little differrence between the two groups was observed.

The deep knee bending exercises showed the most conclusive results. Only three of the nine flesh eaters who entered the contest did over 325 deep knee bends and none of them did over 2,000 bends. Seventeen of the 22 vegetarians did over 325 bends and two of them surpassed the 2,000 mark. The highest number of bends done by a flesh eater was 1,292. One of the flesh eaters fainted while doing the deep knee bends; several were so weakened that they had to be carried down the gymnasium stairs, and a few were made so weak and sore that days were required for recovery. The vegetarians experienced comparatively few ill effects. Oberg, the vegetarian nurse who made over 2,000 bends, was bothered with only a little soreness, and one of the vegetarians went for a long walk and ran on the gymnasium track immediately after the deep knee bends.

These experiments show quite clearly that flesh eating lowers endurance but they do not indicate what effects the other animal foods—milk and eggs—may have. However, the tests are of much value and provide added evidence that flesh foods should form no part of man's diet. Even lacto-ovo vegetarians, whose diets are far from being well balanced, apparently have more endurance than meat eaters. It is quite probable that fruitarians would have made a better record than did the vegetarians in these Yale experiments.

THE POISONS OF MEAT

At all times there is produced in the animal body a certain amount of toxins resulting from the metabolic processes. These are quickly eliminated when the animal is living. However, upon death, elimination ceases and toxins, which were then in the animal tissues, remain there. In addition, more toxins are produced after the heart stops beating, up to the time of actual tissue death when rigor mortis sets in. Then the production of toxins through decomposition occurs. Millions of putrefactive bacteria develop in the tissues of the animal, and multiply into greater and greater numbers as the flesh hangs in the market until it is partly decomposed and tender. "Well hung" meat is really putrefied meat which has been rendered toxic under the influence of bacterial growth.

The character of the poisons found in meat is now well known. The chemical composition of animal tissue extracts is similar to that of urine. As Professor Halliburton, the great English chemist, has remarked, "Beef tea is simply an ox's urine in a tea cup." Guinea pigs invariably develop nephritis and usually die within fifty days after being given subcutaneous injections of sarcin, one of the constituents of meat extract. Another of these constituents, creatin, is a distinct poison. The amount of this material found in a quart of beef tea is, according to the late Prof. Gautier, capable of killing nine guinea pigs if given in subcutaneous injections. Even carnivorous animals such as dogs quickly develop disease if they are given as little as two-thirds of an ounce of the famous Liebig's extract of beef each day. In the words of Legendre, bouillon is "a veritable solution of poisons." Ordinary lean meat naturally contains all of the poisons which are found in meat extracts, though in much smaller amounts. However, the ill effects resulting from its use are just as certain, the only difference being that a much longer period of time is required for them to take effect.

Uric acid is the most commonly known toxin found in meat. Ever since Alexander Haig, M.A., M.D., of England, showed that an excess of this material in the blood was invariably associated with deficient capillary circulation, especially in the kidneys, hygienists have carefully refrained from using meat. Uric acid is not only a poison in itself; its tendency to impair circulation, and hence metabolism, causes the deficient elimination of all types of wastes products from the tissues of the body. The fact that meat is the chief source of uric acid means but little to the carnivorous animal, for its liver is capable of destroying or detoxifying fully ten times as much of this material as is the liver of man. It is only the normally frugivorous and herbivorous animals which suffer from uric acid excess when they consume animal flesh. University nutritional scientists ridicule the idea that, because it contains uric acid, meat should not be eaten. They contend that certain vegetable foods such as mushrooms, asparagus, tea, coffee, and cocoa also contain considerable amounts of this toxin. No doubt this is true but it certainly does not mean that uric acid is harmless. It simply means that we should likewise refrain from using the vegetable sources of it.

The kidneys and the liver suffer most from the poisons of meat. Even the carnivorous animals frequently suffer from kidney diseases. It is no accident that the kidneys of these animals are almost universally condemned as food; nor is it an accident that, when Dr. Fox examined all the animals, over a long period of time, that had died in the Philadelphia Zoological garden, that chronic disease of the kidneys and arteries was restricted chiefly to the carnivorous animals and that chronic vascular and renal lesions were confined entirely to these animals. According to investigators the work of the kidneys is doubled and trebled by flesh eating. Bunge has shown that the liver is greatly over-stimulated when meat is given and that as a result there is over-production by this organ or a ferment which induced excessive oxidation and consequent loss of energy and endurance.

PARASITES

The fruitarian is at an advantage not only because he does not partake of the toxins of meat; he also excapes the danger of parasitic infection. Professor George D. Williams, of Washington University, in soaking up dessiccated tissues of Eskimo mummies found a large number of tapeworm eggs, thus indicating the presence of parasitic infection among these people. It is highly probable that the Eskimos of the present age, living as they do chiefly upon animal flesh (and some of this raw) are likewise afflicted to some extent with parasites. Intestines free from parasites are found chiefly among plant eating animals. Approximately 81 per cent of all fish which have been examined (most of which are carnivorous) are infested with parasites of over fifty different species.

Trichina and tapeworm are the two chief parasites which enter the human body in meat. The trichina is derived from pork, the tapeworm from pork, beef and fish. Of these parasites the trichina is the most dangerous, resulting as it frequently does in fatality. If meat is thoroughly cooked, any parasites it might contain are killed. But when meat is so prepared it loses a large portion of its vitamins and minerals and can no longer support life with freedom from much disease, even among carnivorous animals. If we have to choose between raw meat containing parasites and parasite-free well-cooked meat, it would be best to choose the raw product. However, the better plan is to dispense with meat entirely; thus eliminating the danger of parasites and also the disease-producing tendency of cooked foods.

EGGS

It is the common opinion of most authorities that if a diet excluding meat is to be succcessful, extensive use must be made of other animal foods such as eggs and milk. In reality such opinions are not well founded. We do not find in eggs a product which is appreciably superior to meat. True it is that eggs do not contain many of the toxins of meat. They do not contain the millions of putrefactive bacteria of meat; nor are they (except in rare instances) infected with parasites. Nevertheless, they cannot be considered a food well adapted for use by the human animal.

One of the foremost objections to eggs is their high content of cholesterol, a resinous material from which gallstones are made. Normally the blood contains about 20 grains of cholesterol. When gallstones exist this amount is greatly increased. An egg contains about four grains of cholesterol. When eggs are eaten in great amounts the cholesterol content of the blood rises and the tendency towards the development of gallstones and perhaps other diseases increases.

The white is the most harmful portion of the egg. Abderhalden found that egg white is not acted upon by pepsin, and Okada discovered that both the bile and pancreatic juice are indifferent to this food. Fully 30 to 50 per cent of the egg white passes through the digestive tract undigested. According to Vernon, Hetin and Prof. Bayliss, of the University of London, raw egg white contains a substance which interferes with the action of the digestive juices. This substance is destroyed during long cooking but the remedy is worse than the original trouble. Long cooking detracts still further from the digestibility of egg white. There is also the destruction of vitamins and minerals which removes any healthful qualities the egg might originally have had.

Eggs putrefy fully as rapidly as meat in the digestive tract. Steinitz discovered that raw egg whites, when given to dogs, frequently cause vomiting and diarrhea. In one instance, when five egg whites were given to a 15 pound dog, the stools presented a very offensive odor and contained considerable mucous indicating, not only much putrefaction, but also infection. Egg whites putrefy more readily than do the yolks because they remain largely undigested in the small and large intestine, whereas the yolks are easily digested and absorbed before putrefaction is so far advanced.

Eggs are no doubt a prominent cause of Bright's disease and other forms of kidney impairment. The healthy kidney never permits the passage of albumin. If this material is found in the urine it is evidence that the kidneys have been damaged. In fact albumin in the urine is the first symptom the doctor looks for in determining whether there has been any tissue destruction in the kidneys. It is noteworthy in this connection that the extensive use of egg white over a long period of time is often followed by albumin in the urine. This was observed by both Steinnitz and Claude Bernard. As a result, physicians now usually advise patients with kidney ailments to either cease eating eggs or to eat them very moderately. However, the more practical advice would be to never acquire the egg eating habit in the first place and thus remove an important cause of kidney impairment.

MILK AND CHEESE

Milk is highly recommended by nutritionists, home economists, doctors, advertisers and public health associations as being the one perfect food; the one indispensable food which we positively must have, without which we cannot build strong bones, sound teeth, efficiency of the nervous system, good rich blood, proper muscular tone, vigor and energy. The public is led to believe that a quart of milk per day is the first requirement of good health; that their first duty to their children is to get them, in one way or another, to drink more and more milk. The "definite disease-resisting powers" of milk are stressed again and again.

These extravagant claims as to the value of milk obviously have a purely economic basis. There is no evidence to indicate that milk is an indispensable food. On the contrary, everything points to the fact that milk is superfluous for adults, that in all species of mammalian life its need is confined to the nursing infant. No undomesticated animal partakes of milk after the suckling stage is past. Milk is perfectly adapted to the young infant and the kind of milk best suited for this purpose is that of a similar species. Cow's milk is best suited for calves; goat's milk is best suited for the young kid; sheep's milk is best suited for the young lamb; and only human milk from the mother is well suited for the young child. The consumption of milk forms the basis of mammalian life but only insofar as the welfare of the suckling is concerned.

Man has suffered no small amount as a result of his practice of consuming milk in adulthood. In the adult stomach milk frequently forms rubber-like curds which defy digestion. Severe cases of constipation, as well as catarrh, halitosis and other ailments, often follow the extensive use of this food. Many find that they need only cease drinking milk in order to eliminate these troubles. It is especially in catarrh of the nasal passages and throat that the disease-producing power of milk has been most clearly seen. Many hygienists have claimed that the consumption of large amounts of milk is the most important cause of this ailment, and though this is not completely proven, a great deal of evidence may be found to back up their viewpoint. Anyone who has compared the effect of milk-free diets and diets which include the daily quart of milk must realize that, far from possessing "definite disease-resisting powers," milk (and its various products) is in itself a cause of no inconsiderable amount of disease.

The only time that milk improves the health is when it is added to a diet which is hopelessly inadequate in many essential nutritive elements. When a wide variety of plant foods, especially raw fruits and nuts, is unavailable, as is the case of the isolated Swiss and certain other primitive groups, the addition of milk is advisable to supply the minerals, vitamins and first class proteins which would otherwise be lacking. But the well balanced fruitarian diet supplies adequate amounts of minerals, vitamins, first class proteins and all other dietary essentials. It does not need to be supplemented with milk or any other animal food. In fact, additions will be harmful rather than helpful.

What has been said here in regard to milk applies with equal or greater force to cheese. This food is simply a concentration of milk, and in addition to embodying all of the objectionable features of the product from whence it is made, it is usually highly salted. Cheese which is ripened over a long period of time contains millions of putrefactive bacteria and is in a state of decomposition. Of all the products made from milk, it is the most objectionable.

THE IDEAL DIET

In view of all the preceding facts it becomes apparent that plant foods are not only capable of supporting life when used as the sole source of nutritive matter but that they are able to support life in a manner which permits the finest physical development and the greatest freedom from disease. Man is a frugivorous animal and thrives best upon the fruitarian diet. Throughout most of his history he appears to have used other diets but he hasn't lived well upon them. He has survived it is true, but we are interested in more than mere survival. We want optimum health, the very highest that can be built. To acquire that, we must recognize our nutritional needs and these call for a fruitarian diet.

With the fruitarian diet you gain the opportunity to rise above the health standards of the primitive. No credit is taken from the superiority of the primitive's foods over the conventional foods of civilized races in recognizing the greater value of the fruitarian dietary regime. The fruitarian diet simply allows you to go one step further than the primitive. It gives you the advantage not only of unrefined foods but also of a system of eating which eliminates the use of the disease-producing products of the animal kingdom.

In planning the perfect diet, two fundamental principles must be employed as guides. Only natural, uncooked, unrefined, unprocessed, unchanged foods must be used, and these must be selected from the plant kingdom. Raw plant foods are ideal for man. They will support life at the highest possible level and will provide the greatest freedom from disease. An iron-clad rule should be made never to eat food which has been cooked or obtained from other than the plant kingdom. Those who follow this rule will have taken the biggest single step in their quest for a mode of living which will preserve their physiological youth over the longest period of time.

CHAPTER 9

How to Plan Your Meals

The Hygienic Methods of Preparing Foods and Balancing Menus

Ever since the days of Homer in ancient Greece, advice has been written on the art of preparing foods so as to render them most palatable. Homer described the Grecian methods of cooking meats but didn't give much real culinary advice. *The Deipnosophists of Athenaeus* was the basic cooking catalog of the ancient world. It offered a wide variety of wines and dishes, interspersed with much poetry and conversation, including some of the writings of the famed Sappho.

It was left to the Romans, however, to give the cooking art a topnotch reputable position. All Roman life centered around the pleasures of the palate. These people lived to eat in a near literal sense. They provided the world with some of the most extensive instructions for counteracting the effect of overeating after they had established this practice as a national institution. The typical Roman feast was a mixture of gluttony and spewing, the latter being established as the basic remedy for the former.

In the dark ages the entire cooking art went to pot with everything else. This was not much of a loss however; there was nothing in the ancient art of cooking worth saving. The rebirth of interest in cooking recipes at the end of the fourteenth century was founded upon the principles of the old Romans; overeating was encouraged and foods were recommended for their flavor, irrespective of the effect they might have on the digestive organs. By the seventeenth century every reputable cookbook had an appendix which gave detailed instructions for combating the ill effects of indigestion, constipation and gout, maladies which were recognized as due to overeating and use of rich, highly seasoned foods. The author of every cookbook felt honor bound to explain how to counteract the effect his recipes and menus induced.

At the beginning of the twentieth century, authors dropped the sections of pathology and medical advice from their cookbooks. People began to eat a little more sanely; salads gained a new place on the menu plans and a social reprobation was attached to gorging and expanded wastelines. However, the cookbook improvements were on a small scale; recipes and menus still were not based upon the available nutritional knowledge. Nor are they to this day. Modern cookbooks offer recipes which are in no sense desirable from a hygienic standpoint. They generally include such foods as white flour, lard, with sugar, spices, salt and vinegar as their primary ingredients, and are designed entirely to appeal to the user's perverted sense of taste, without the slightest regard for the nutritive needs of the body.

A little better, perhaps, are the so-called balanced menus of the university investigators who for years have spoken of little else but "protective foods". These menus include coffee, tea, salt, white sugar, white bread and other harmful foods. They can best be distinguished from the more conventional menus by the fact that they are fortified with larger amounts of milk, fruits and vegetables. This is an improvement, but only a very slight one; certainly it is of little importance from a hygienic viewpoint.

With the development of the "health food industry" came a new art of cooking which excluded refined foods from recipes. This was another improvement; it permitted you to employ a primitive type of diet. A large number of cookbooks following this plan have been published. Whole grains, soya flours, raw sugar, honey, unsulphured molasses, vegetable salt, butter, vegetable oils and herbs are recommended in preference to other ingredients. Fruits, vegetables, whole grain bread, meat, milk and eggs are the basis foods of the menus. This is all very well for those who are satisfied with half-way measures. But it must be rejected by hygienists as being too conservative. A radical revolution of food preparation methods is needed.

No cookbook can be based upon the modern science of nutrition. Cooking itself must be dispensed with as a means of preparing food, a new culinary art is needed, one based upon the preparation of raw foods. In the kitchen the grater, shredder, chopping knife, juicer and liquifier must replace the cook stove. Foods must be palatable but they need not be cooked and refined to render them so.

Here you will find recipes and menus which call for the finest types of foods, those of the plant kingdom as they are found in their completely natural state. Only a small number are given. But they can serve as a model for all of your food preparation. With a little experimentation you will be able to create many new tempting dishes which are both healthful and delightful to the sense of taste. The hundreds upon hundreds of delicious foods of the plant kingdom, and the thousands of varieties of these foods permit meals which have no equal for flavor and palatability. True it is that most of these foods have not yet been made available in most areas of the world, but there is usually sufficient variety to permit the successful employment of the fruitarian diet. As the demand for increasing amounts and kinds of plant foods arises, new supplies will become available. Modern transportation facilities permit the movement of plant foods to all areas of the United States and offer a potential means of supplying restaurants, cafeterias, housewives, hospitals and sanatoriums with a wide variety of fruits, vegetables and nuts during all seasons of the year. The present lack of many of these foods in the northern states during the winter months is only the result of lack of public demand.

Tropical fruits, especially, are a rarity in most regions of the temperate zone. Practically no one can obtain a wide variety of these foods during all seasons of the year. Even in the tropical regions fruit culture remains underdeveloped and there is a scarcity of tropical fruits. Inhabitants of sub-tropical regions such as Florida, Southern California and the Mediterranean Basin can use at least a few of the tropical fruits frequently available in these regions. For the most part, however, the inhabitants of the United States will, at least for the present, have to forego the use of most of these foods. Bananas, oranges, grapefruit, lemons, limes, dates, figs and mangos—these are about the only tropical and sub-tropical fruits presently available in most states. In the future, however, if the demand arises, we may expect a wider variety of tropical fruits to find its place in the fruit and vegetable markets. Among the numerous fruits which might be suitable for transportation to the temperate regions are: cashew-apples, sugar-apples, star-apples, rose-apples, imbus, ambarellas, red mombins, yellow mombins, cherimoyas, soursops, ilamas, soncoyas, papayas, sweet granadillas, purple granadillas, giant granadillas, capulins, loquats, manzanillas, icacos, pineapple guavas, strawberry guavas, pitangas, feijoas, jaboticabas, grumichamas, litchis, longans, rambutans, sapodillas, sapotes, canistels, kakis, mangosteens, jackfruits, durians, tunas, carissas and carambolas. Some of these fruits are, in fact, well suited for growth in the subtropical regions of the United States. Being man's most palatable foods, their extensive culture is one of the most urgent needs of the day.

Recipes and menus which include liberal amounts of tropical fruits should be considered superior to all others from the standpoint of health as well as palatability. Man is a tropical animal, and though he may live well in the temperate regions with the use of such artificial aids as clothing and modern heating appliances, he remains best suited to the tropical regions in which he probably began his evolutionary descent. Likewise, the foods of the tropics are best suited to support human life. The great variety and abundance in which they are found serves in an admirable manner the needs of man. This does not mean that the tropics are a necessary prerequisite to good health, nor does it mean that the plant foods grown in the temperate zone are not of great value. It means only that we should make an effort to balance our diets with tropical fruits, rather than restrict ourselves to the standard fruits, vegetables and nuts of the temperate regions. Remember, the variety in the diet always add to diet's value, providing the increased variety includes only healthful foods. A restricted selection of plant foods (up to a certain limit) can produce good health. It is superior to either a modernized or primitive diet, but it can never be the equal of the diet which includes both foods of the temperate zone and a wide variety of tropical fruits, nuts and plants.

ADD VEGETABLE JUICES TO YOUR DIET

If you have an electric vegetable juicer you can make your meals much more appetizing. These juicers can be obtained in various kitchen appliance shops and health foods stores. They enable you to make many delicious juices from not only vegetables but also from such fruits as peaches, pears, apples and berries. Many vegetable juices are palatable in their pure unmixed form whereas others should be mixed with additional juices. A little experimentation will enable you to find just which combinations are most appealing. The following are given as samples:

1. Carrots
2. Carrots and celery
3. Carrots, celery, spinach and parsley
4. Cucumbers and grapefruit juice
5. Beets and pineapples
6. Beets and apples
7. Green peppers, celery and lemon juice
8. Carrots and apples
9. Carrots, celery and apples
10. Carrots, celery, and parsley
11. Strawberries
12. Raspberries
13. Apples
14. Pears
15. Peaches
16. Pineapples
17. Celery

THE LIQUIFIER

There are also many fine beverages which can be made with the liquifier, food blender or fletcherizer, as it is commonly called. This electric machine enables you to make the most delicious dressings for salads through its ability to semi-liquify such foods as bananas and avocados. It removes the need of mashing these foods by hand in order to give them a suitable consistency for use as dressing. In addition the liquifier allows the liquifying of salads, nuts and other foods for the people who find them difficult to chew because of poor teeth.

REMOVING ARSENIC FROM FOODS

In making salads, juices, and liquified meals be sure to use perfectly clean foods. Obtain unsprayed fruits and vegetables if possible. However, if they have been sprayed it is advisable to wash them in a 1 per cent solution of hydrochloric acid with three quarts of water or by mixing a 10 per cent solution of hydrochloric acid with nine parts of water. The mixture can then be used for several washings and should be renewed every three days. Be sure to rinse your fruits and vegetables very thoroughly after using the hydrochloric acid solution. It is a good idea to raise fruits and vegetables in your own garden if you can, for then you can be certain that they are not sprayed with arsenic, and you need not bother with the solution of hydrochloric acid. (Vinegar may also be used as a cleanser.)

FOOD SELECTION

With the following recipes and menus serving as models you should be able to follow a healthful plan of nutrition. It will be noted that the salads and meals which are suggested contain a wide variety of foods. Only a few people—those living where these foods are available—can follow these recipes with no deviations therefrom. However, this does not prevent the majority from making a practical application of them. They are offered only as a guide to a better plan of nutrition. They represent a degree of excellence which you should approach as closely as the variety and general selection of foods permit. Don't become disturbed when you cannot obtain all of the foods mentioned. Substitutions can always be made; there are no indispensable foods. It is only the general classes of foods, the fruits, green plants and nuts, which should be included in every menu plan. It is a good idea to include at least one food from each of these classes in your diet each day. Restricted class selection is made only on elimination diets.

Remember that it is not only what you eat that counts but also how you eat. All of the foods on the raw fruitarian diet should be masticated very thoroughly; they should be eaten only when there is a definite desire for food and never in the presence of great mental and physical distress. It won't hurt you to miss a meal now and then but to overeat even uncooked plant food is definitely harmful. The use of the foods in these salad recipes and menus, when associated with thorough mastication, real hunger and moderation in quantity, builds the best health. It gives you the greatest insurance that can be had against disease and senility.

SALADS

CELERY — NUT SALAD

4 stalks celery, sliced
1 green pepper, minced
Parsley
2 large tomatoes
1/2 cup grated nuts

Cut the tomatoes in small pieces and mix with the celery and green pepper. Add a mixture of orange and lemon juice as dressing. Use lettuce leaves as a bed for this salad and sprinkle with grated nuts. Garnish with parsley.

APPLE SALAD

3 1/2 cups diced apples
1 cup sliced celery
1 cup diced banana
1/2 cup raisins

Mix the ingredients and serve in lettuce cups.

AVOCADO SURPRISE

1 large ripe avocado
3 slices of fresh pineapple
1/2 cup sliced celery
1/4 cup chopped almonds

Dice the avocado and pineapple and mix all the ingredients.

AVOCADO — ORANGE SALAD

2 cups diced avocado
4 oranges
1 cup sliced celery

Slice the oranges and mix with the avocado and celery. Serve on crisp greens without dressing.

AVOCADO — PINEAPPLE SALAD

2 sliced avocados
1 sliced grapefruit
1 sliced pineapple
2 sliced apples

Arrange the fruit slices on lettuce leaves.

BRAZILIAN SALAD

1 cup chopped pineapple
1/2 cup sliced celery
1/2 cup Brazil nuts

Chop the Brazil nuts into small pieces and mix all the ingredients. Add endive and parsley leaves. Serve on green leaves.

BANANA — DATE SALAD

1 cup chopped dates
2 cups diced banana
1 cup diced celery

Mix the ingredients and serve on fresh green leaves, preferably lettuce.

FRUIT COLE SLAW

1 head cabbage, shredded
2 apples diced
3 cups diced pineapple
1 cup sliced celery

Mix all the ingredients and serve on crisp Romaine leaves.

MANGO DELIGHT

2 mangos
2 bananas
2 apples
1 cup dates

Cut the mangos, apples and bananas into small pieces; slit the dates into halves. Mix all the ingredients.

VEGETABLE NUT SALAD

1 small bunch parsley
1 small head Romaine lettuce
1/2 cup chopped sweet pepper
1 cup sliced Brazil nuts
1 cup tomatoes

Mix nuts, tomatoes, and peppers. Place on lettuce leaves.

RAINBOW SALAD

1 small head red cabbage
2 carrots
2 tablespoons parsley
2 turnips
1 large beet

Grate the turnips, carrots and beets; shred the cabbage.Place in rainbow fashion on shredded lettuce leaves. Sprinkle with minced parsley.

FRUIT ROLLS

1 cup dates
1 cup black figs
1 cup seedless raisins

Put dates, figs and raisins through the food grinder and roll out in a flat layer. Cut in slices.

CHAPTER 10

The Best Sources of Minerals and Vitamins

Obtaining the Needed Elements In Their Organic Form

Modern science has proven conclusively that the body requires a wide variety of minerals and vitamins in order to be healthy. It has shown that all types of animals, including man, succumb to disease if even one of these elements is lacking in the diet. It has shown that throughout the animal kingdom health is dependent upon the chemistry of the living tissues, and that this chemistry is determined by the amounts of minerals and vitamins in the foods which are eaten. Those races which get the greatest amounts of these elements in their diet possess the greatest resistance to disease.

Commercial interests were quick to grasp the significance of these discoveries. They recognized the fact that, if minerals and vitamins were of such great value, the public would sooner or later start using the foods which contained them in the greatest quantities. From this development the drug and chemical enterprises could not profit. Hence the minerals were isolated and concentrated into small tablets, and the vitamins were created synthetically and also put into tablet form. The tablets were in turn sold to the public as substitutes for natural foods.Under this plan the basic food industries—those which manufacture white flour, white flour products, white sugar, refined cereals and denatured foods of all kinds—were not harmed in the slightest, and the chemical industries gained the oportunities to reap the greatest profits. The manufacture of mineral and vitamin concentrates became the very basis of some of these industries.

The facts regarding these concentrates are not in accordance with the popular opinions and advertising claims. The manufacture and sale of mineral and vitamin concentrates is, for all practical purposes, a financial racket. The daily requirements of mineral and vitamins cannot be met by using special tablets, capsules and concentrates. No special concentrated preparations can remove the need for natural foods. From a hygienic viewpoint these products are not only unnecessary but definitely harmful. There is no room in a healthful diet for isolated vitamins and minerals of any kind.

You need minerals and vitamins. That is a proven fact. But all minerals and vitamins are not the same. A mineral can be necessary for human health in one form and harmful in another. And the same is true for vitamins. The evidence as it stands today indicates that these elements can be both life savers and poisons. One single mineral can be absolutely essential for health, whereas that same mineral, in a different form, can produce instant death.

ORGANIC AND INORGANIC MINERALS

Minerals are divided into two distinct types. There are the organic minerals which are found in living matter, and the inorganic minerals which are found in the soil, rocks, ashes and other earthly elements which do not possess life. For instance, the iron, calcium, phosphorous and other minerals which are found in lettuce, oranges, grapes, apples, walnuts, almonds and other plant foods are organic. Likewise, all of the minerals which are found in animal flesh or animal products such as milk and eggs are organic. The word *organic* really pertains to that which is living. The word *inorganic* pertains to the crude elements of the earth which are found in the dead, inert mass. Inorganic minerals are also those which are produced in the laboratory by reducing foods to an ash and then separating the various mineral and mineral compounds which are released as the food is broken down. The minerals contained in the plant and animal material are organic only so long as this material retains a certain resemblance of its living cell structure. After its death, as it decays, it is broken into its component parts, the minerals are released and all again become part of the soil in an inorganic form.

Now the question comes up as to just how the organic minerals differ in the structure from the inorganic minerals. This is something no chemist has ever been able to answer. It is impossible to isolate the organic mineral and thus make it available for analysis. All life exists in a complex mixture. The organic minerals of the plant are inseparably combined with each other and also with the vitamins of the plant. As long as the plant is not broken down to an ash these minerals remained combined. No one can separate them. The isolation of minerals takes place only after the plant structure is completely broken down, and by this time the mineral can no longer remain organic. It is possible that the only difference between the organic and inorganic minerals lies in the combination in which they are found. The organic combination may be all that distinguishes the life of the plant from the condition of the soil. Life itself may be just a matter of chemical combinations. And these combinations may be the deciding factor in giving the organic minerals the power to support animal life (but not plant life) and in giving the inorganic minerals the power to support plant life (but not animal life). However, what the difference between organic and inorganic minerals may be is not what chiefly concerns us here. The important thing is to discover the difference between the effects of these inorganic and organic elements.Just why the effects of the respective elements differ is a secret which we will have to leave to Nature, for the present at least.

THE EFFECTS OF INORGANIC MINERALS

The human body is composed of 16 principal mineral elements. In addition, there are numerous others which exist in the body in just small traces. These are called the trace elements. All of these elements exist in the body in their organic form and they were obtained from plant and animal foods in their organic form. This transference of minerals from the plant and animal foods to man is itself indicative of the indispensability of minerals in their organic form. If inorganic minerals were capable of supporting animal life, man could live on ordinary soil instead of on plants. But man cannot live upon soil; nor can he live upon finely crushed rocks or ashes, even though these contain all of the minerals found in the human body. These lifeless sources of inorganic materials, when used as animal food, not only will not support life but they tend to destroy it. As sources of food, inorganic minerals are for plants only.

The majority of pure, uncombined, inorganic minerals will produce several symptoms of disease or instant death if taken even in small amounts. Just a few grains of inorganic phosphorus is a fatal dose, and only one milligram of uncombined inorganic potassium is require to produce death. Inorganic iodine and inorganic arsenic are also good medicines for those who want a quick way out. Inorganic arsenic has been used as a means of suicide and premeditated murder for decades. Most of the other organic minerals are less poisonous. Large doses of them are required before death ensues. However, the only difference here is one of degree; the inorganic minerals are all harmful to animal life, though some are more so than others.

Medical science was the first to use inorganic minerals. Doctors employed them as medicines for specific diseases. The patients suffered greatly under this plan; true, symptoms were sometimes temporarily suppressed but the mineral thus added to the cause of disease. The patients were are not instantly killed by the minerals only because the doctors precribed very small doses. The more poisonous the mineral, the less they prescribe, always being careful to keep below the fatal dosage. Perhaps a few patients died after even the small doses but the majority managed to survive.

The nutritional scientists in the university laboratories were the next to use inorganic minerals. However, they used them for experimental rather than medicinal purposes. In thousands of experiments with white rats inorganic minerals were used to a very great extent. Such experiments are, in fact, still being carried on. In order to learn more of the effects of mineral deficiencies the scientists place the rats on very restricted diets which are completely lacking in certain essential minerals. Almost invariably the rats become sick, their type of illness depending upon which of the minerals are lacking. The scientists then give the rats very small amounts of the lacking mineral. As organic minerals cannot be isolated they supply the mineral in its inorganic form. Occasionally the rats recover. The scientist proclaims his discovery to the world, and new disease-remedial powers are ascribed to the inorganic mineral used. The assumption is then made that inorganic minerals are equally as valuable as organic minerals as preventive of disease or remedies for disease.

On the surface it may appear that the nutritional scientist is correct—inorganic minerals may be equally as valuable as organic minerals. But closer observation provides a different picture. The rats appear to be helped by the inorganic minerals only because their bodies are stimulated to resist the introduction of a poisonous substance. This temporary stimulation is the same kind of "help" that a person with a headache gets when he drinks a cup of coffee. The introduction of any poison into the body calls forth its energies to resist. This bodily defense activity is mistaken for improvement, whereas it is merely enervation. The inorganic mineral is always a poison and must be eliminated. The effort requiredby the body to do this will deplete its energies and result in more weakness and sickness later on.

It must be remembered that in the rat experiments in which some apparent benefit was observed, only very minute quantities of inorganic minerals were used. Large quantities of the inorganic minerals, such as are normally present in their organic form in natural foods, often produce very toxic reactions among the rats. The toleration point of the inorganic minerals is very low. Whereas ten grains of certain minerals are tolerated in their organic state, often just a few grains of the same mineral, when used in its inorganic form, will produce serious disease and occasionally even death.

No one has ever proven that the addition of the inorganic minerals to a diet produces any improvement in health. Indeed, the evidence indicates the opposite.

The mineral tablets which are sold in drug stores and health food stores must necessarily contain inorganic rather than organic minerals. Care is always taken in their manufacture to use only as much mineral as can be taken without causing the development of symptoms which let the user know that he is being poisoned. This calls for only minute quantities of minerals in each tablet. However, even these small amounts can do serious harm. Only a very small amount of inorganic calcium with synthetic vitamin D is required in the pregnant mother's diet to cause a marked calcification of her kidneys as well as partial closure of the fontanelle opening in the head of the infant. The latter abnormality fails to permit the infant's head to shape itself according to the shape and size of the birth canal and as a result childbirth is made very difficult and painful. In spite of this fact, it is considered the soundest nutritional advice to recommend a combination of inorganic calcium with vitamin D for pregnant mothers. These people need calcium and plenty of it but they need it in its organic form. The diets of many primitives contain ten times the minimum requirement of organic calcium, but with them childbirth is very easy and there is no calcification of the kidneys. It is only the inorganic mineral, even when taken in very small amounts, which produces these symptoms.

The damaging effects of inorganic fluorine upon the human body have been noticed in those localities where drinking water contains more than two parts per million of this mineral. The teeth of the people who drink this water regularly become stained and mottled. In addition, the teeth often become translucent (that is, they loose their white normal color). In some cases they become pitted. But the teeth are not all that suffer from fluorine poisoning. The whole body is affected, with particular emphasis upon the bones. The symptoms are quite often serious and include, in addition to tooth troubles, retarded ossification of the connective tissues, depressed appetite, diuresis, estrual disturbances, loss of weight, anorexia, a great transparency of the bones, as well as softening and thickening of certain bones. And remember, this is the result of a comparatively small amount of inorganic fluorine. You get fluorine every day in your foods but do not suffer as a result. Rather, you are benefited, for the body needs organic fluorine. It is only inorganic fluorine which produces symptoms of disease. The inorganic mineral chlorine is added to the water of most cities. The chlorine supposedly purifies the water, killing many kinds of bacteria; it also kills humans. Only the humans are killed more slowly. They are slowly poisoned year after year throughout their life. Inorganic chlorine, when taken in large amounts, is fatal. In World War I it was used in manufacturing poisonous gasses. The amount of chlorine in city water is not enough to produce symptoms of immediate poisoning but it is no doubt a contributory cause of much disease. However, the organic chlorine which is found in foods is essential for the best health.

Perhaps one of the most deadly in all inorganic minerals is iodine. This element has been used for many years as a preventive of goiter. Most of the salt sold today is iodized; that is, minute quantities of inorganic iodine are added to it. The water supplies of most large cities are still free from inorganic iodine but many are attempting to make the addition of this mineral to all drinking water a standard procedure. A few years ago it was the common practice to add iodine to drinking water. Doctors recommended the procedure very highly. However, the results of the practice were not so good. Even as little as a drop of inorganic iodine often produces the most toxic symptoms, chief of which are gastric distress and severe skin rashes. Exzema often results from iodine poisoning. As for actual deaths occurring from the use of inorganic iodine, these are more frequent than is commonly supposed. A drop of inorganic iodine per day over a long period of time has been, in itself, the sole cause of some deaths. The real source of the only harmless iodine is natural food. Organic iodine as found in food is more effective than inorganic iodine as a preventive of goiter and it produces no toxic symptoms, even when used in great excess of the body's requirements.

The story of iodine, chlorine, fluorine and calcium is similar to that of the other inorganic minerals. Almost invariably these minerals act as irritants to living tissues. When they are added to the normal menu, inorganic minerals are just so many extra toxins which the body must dispose of. For every one disease they may appear to prevent, they actually produce several more, and these are often more serious than the original disease. So for your health's sake avoid inorganic minerals of all kinds. Don't take mineral tablets, pills or concentrates under any circumstances. Use distilled water in preference to chlorinated city water or water which contains much fluorine. If you can't buy distilled water, buy a water distiller and you will be able to remove the inorganic minerals from the water yourself. In addition, never use aluminum cooking utensils as these corrode very easily and some of the aluminum finds its way into the food. Use plants which have not been sprayed with inorganic arsenic, or if this is impossible be sure you remove all of the arsenic from the plants before using them. Avoid the inorganic sodium chloride which is generally known as table salt and be particularly careful not to use the iodized product. Simply keep away as much as it is possible from the use of all inorganic minerals. Get your minerals from the plant kingdom, or, at second best, from the animal kingdom. These minerals your body can use most effectively. They are fully adequate for the prevention of all deficiency diseases and they will not poison you.

SYNTHETIC VITAMINS

Many of the facts which apply to minerals also apply to vitamins. You need vitamins—plenty of them. Vitamins are fully as important to health as are the minerals. However, you need them only in their natural form. Vitamins, like minerals, must be found in organic combinations with other elements. The value of each vitamin depends upon the way in which it is combined. In their organic combination, vitamins give no toxic reactions; they supply your needs in an ideal manner.

Most vitamins can be isolated in the same manner that minerals can be isolated. The food must be broken down to an ash so that the chemist can recover the vitamins in their pure uncombined state. Some of the vitamins can also be created synthetically in the laboratory. These are similar to the isolated vitamins taken from the food and they produce similar effects. The isolated vitamins and the synthetic vitamins (which are also isolated) might be compare to inorganic minerals, and the natural vitamins to the organic minerals.

As for the toxic reactions which follow the employment of the isolated vitamins, whether created synthetically or taken from food, these are not as severe as those which follow the use of inorganic minerals. But nevertheless,they do act as toxins and are a cause of disease. Vitamins B and D are the most harmful when taken in very large doses in their isolated states. Synthetic vitamin D was formerly employed to a great extent in treating arthritis patients, but it was soon discovered that more harm than good was accomplished. If it is taken in small amounts, the arthritis is not helped at all but when massive doses are used, which appear to result in a little improvement, the patient is harmed in so many other ways that the treatment is no longer considered practical. The chief ill effects involved in these cases are heart lesions and calcium deposits in the body. Pyridoxine and thiamin, two members of the B complex vitamin group are known to impair health when taken in large amounts of their isolated form. The pyridoxine tends to cause premature graying of the hair; the thiamin causes multiple evidences of toxicity including hyperthyroidism and high blood pressure. When large amounts of isolated vitamin A are injected into rabbits, the animals develop roughening of the skin, rarefication of the bones, internal hemorrhages and alopecia.Humans may react somewhat differently but it is improbable that they remain unharmed.

It is often held that the natural vitamin A, as it is found in food, produces toxic symptoms when foods very rich in this element are use extensively. But there is really no proof of this. Fish liver oils are the richest known source of vitamin A. When they are taken in large amounts the heart tissue is often irreparably harmed, and other symptoms of disease also develop. But this is not due to the presence of vitamin A. The oils of fish liver are harmful in themselves, regardless of the amount of vitamin A they contain. It is notable that the use of fish liver oils containing as little as 5,000 units of vitamin A have been known to produce symptoms of heart impairment whereas green and yellow vegetables containing as much or far more of this vitamin (in the form of carotene) provide nothing but beneficial effects.

The use of synthetic vitamins in numerous experimental tests with humans shows that these elements provide no improvement whatsoever in the state of health. In one set of these experiments, three groups of patients were used. The first group was given synthetic vitamins; the second group was not given any synthetic vitamins; and the third group was given pills which they were told contained synthetic vitamins but which in reality contained none. The members of the first group said they felt better with the additional synthetic vitamins. But so did the third group. The only value of the vitamins in these cases was psychological. Just the belief that they are taking extra vitamins give some people the false sense of physical well-being. But as for real physical improvement under the synthetic vitamin regime, there is none. In fact, when the synthetic vitamins are taken in sufficient amounts over long periods of time there is a definite deterioration of health.

If you desire the finest physical condition you should forget synthetic vitamins and inorganic minerals. There is no substitute for the products nature offers us. The value of her foods have yet to be equalled or surpassed by anything the chemist can produce. Remember, the organic minerals and natural vitamins of natural foods are always good. The other are never so, and more often than not they are distinctly harmful. The chemist may be able to isolate all of the elements of the apple but he cannot re-combine these elements in a manner which will support life. We have to rely upon Old Mother Nature for our production of foodstuffs. And this is all well and good, for she seems to have mastered quite well the art of synthesizing and combining the elements of the earth into plants which provide the human body with all of the nourishment it requires.

CHAPTER 11

SOIL AND FOOD

Depleted Soil: A Cause of Plant and Animal Deterioration

The problem of treating and using the soil has long been considered from the standpoint of agriculture. Farmers have long been taught to provide their land with special chemicals so as to produce good yields of their crops. The good yields were regarded as desirable solely in consideration of the farmer's pocketbook. No effort has been made on the part of the farmer to produce crops that supply foods which provides us with the chemicals we need for health. The motive has always been one of profit and the farmer's profit never has much to do with the vitamin and mineral content of the foods he grows.

We have seen that the foods of the primitives often contains over 10 times as many vitamins and minerals as do the foods of civilized man. The high vitamin and mineral content of the primitive's food is due largely to the fact that he eats it in an unrefined condition. But is also due to the fact that his foods usually are grown on good soil which is not in a depleted condition. Many of the foods of the primitive are grown on virgin soil. The natives of the South Seas use an abundance of wild fruits which grow in the fertile, virgin soil of the forest. The isolated Swiss of the Loetschental Valley use a method of agriculture which has preserved the fertility of the soil for centuries. Growing in these good soils, their plants are sure to be better nourished and richer in vitamins and minerals.

Civilized man can obviously produce only a very small percentage of his foods on undepleted soil. He must use the same land again and again. When he does this he removes much of the mineral content of the soil with each crop. He attempts to replace a few of the minerals but does not meet with much success. They can add only slightly to the nutritional qualities of the food. In spite of the years they have been employed our soils are continually becoming more and more depleted.

Civilized man also has to reckon with soil erosion. It is through erosion that the soil loses many of its minerals. The minerals are washed from the soil into the streams and rivers and often find their eventual home at the river bed or in the ocean. Using the conventional methods of agriculture, this erosion cannot be prevented. Rather, it is increased and becomes a greater problem with each new year.

Associated with the increasing depletion of the soil is the increasing necessity of using insecticides as a protection against insects. Various sprays are also used as a means of protecting the plant against certain diseases. The disease and insect menace is indeed a serious one. Again and again it has been shown that the materials used to poison the insect or ward off plant diseases are poisonous to man. There are many medical records of deaths which have resulted from the use of foods sprayed with arsenic, the chief form of insecticide used. Insects seem to prefer the sap of unhealthy plants grown in demineralized soil. Diseases tend to develop in the same plants. The spraying problem is essentially a soil problem.

Human health deteriorates in direct proportion to the degree to which our soils are depleted. Dr. Weston Price has found that mortality rates for heart disease and pneumonia vary in accordance with the depletion of the soil. The areas which have been settled longest usually possess the poorest soils and the highest mortality rates. Good soil is generally followed by better human health and poor soil is followed by deteriorated human health. The history of races and the extent to which they have depleted their soil shows this conclusively. It has even been noted that the facial structure markedly changes, with beauty becoming more rare, as the soils become exhausted.

The difference in the mineral and vitamin content of foods grown in different soils is by no means slight. The calcium content of the pasturage grown in Pennsylvania and British Columbia is over ten times that of the pasturage of Arizona simply because of the differences in the soil. The phosphorus content of the pasture has been seen to vary depending upon the soil. In one series of tests the pasturage in one area was found to contain 60 times as much phosphorus as the pasturage of other areas.

Sea vegetation has been heralded as a superior source of vitamins and minerals. For this reason it is often sold in its dehydrated form in health food stores as a supplement to the diet. As a general rule, sea vegetation contains from 10 to 20 times as many minerals as do land-grown vegetables. The reason again goes back to the soil. The sea bed is undepleted. The vegetation which arises from it is consequently rich in minerals. It is quite possible that land vegetation could be made as valuable as sea vegetation if we could but restore the fertility to the soil. But can we do this? Many prominent scientists claim that they know of no method of doing so. Agricultural orthodoxy offers no hope of solution. The farmer and research worker can tell you nothing about restoring the original fertility to depleted soils.

However, the case is not so hopeless as it may first seem. In fact, it is everything but hopeless. It is only by closing our eyes to the evidence that we can insist that it is impossible to restore fertility to the depleted soil. In the matter of from two to five years or slightly longer, any soil can be restored to the fertility it once possessed. This is no idle theory. It is a proven fact.

THE CURSE OF THE PLOW

It was left to Edward H. Faulkner to discover exactly why soil becomes depleted and exactly how its original fertility might be restored. Faulkner, a professor at the University of Oklahoma, went back to the land to do some independent research with soil. Instead of accepting the tradition of agricultural science he questioned everything and disregarded the very premises and basis of this science. After much study he suspected that the moldbord plow might be the agent which is destroying soil fertility. He noted that no one had ever advanced a scientific reason for plowing. Plowing just seems to be a custom with farmers.

The experiments of Faulkner on his own farm (followed by the U. S. Dept. of Agriculture) have proven conclusively that the plow has done more than anything else to deplete the soil. Faulkner restored the fertility to his soil simply by disking green manure (the decaying vegetation and plant residue which covered most of the earth surface) into the surface of the ground, and by eliminating the use of the plow. Restoring fertility was hardly a problem at all. It was indeed very easy. It did not involved all sorts of fertilizers or soil treatments. Rather it involved only that he stop interfering with nature. Provide the soil with plenty decaying vegetative matter, do not prevent it from making use of the same, and it is certain to remain fertile. It is as simple as that.

When land is plowed virtually all the green manure is sandwiched in the soil about six to eight inches below the surface. Here it forms a barrier to the water which should otherwise rise from the water table through the soil to the surface. Thus the upper six to eight inches of the soil become very dry. Most of the capillary action of water movement is broken. The plants suffer from lack of water; in times of drought they may die altogether. There is no escaping this. It is not until the green manure has completely decayed that normal capillary action may be restored.

The decay of vegetation produces much carbon dioxide. When the vegetation decays well below the soil surface, this gas moves in between all of the particles of the soil driving out the air to the surface. The nitrogen, which forms a part of the air, is thus lost. The plants are robbed of one of their most important sources of nutritive matter.

The combination of carbon dioxide and water forms carbonic acid, one of the most effective solvents of plant-food minerals. In the presence of carbonic acid these minerals are reduced to forms which the plant may use. When land is plowed it becomes so dry that there is little or no water with which the carbon dioxide may combine. The result is a lack of carbonic acid in the soil and the consequent release of insufficient minerals for the plants.

Land is most often plowed in the early spring, after extensive thaws, when it is still relatively wet and plastic. The furrow slice is compressed when it is separated from its base. Later it is exposed to the wind and sunshine and turned into a large clod, Smoothing implements turn the clod into many small pieces but they do not correct the original damage. The small clods are just so much soil which is mustered out of use for the season.

The tiny particles of silt, clay and sand in plowed soil do not absorb water. A little of the water clings to their outer surface; the rest moves about between them. The movement of the water in and over the soil carries many of the tiny particles with it. This is known as erosion. In many cases the loss of all of the original rich topsoil occurs through the erosive process. The result is a thoroughly depleted soil bed which cannot supply the plants with enough of the vital elements they need.

The plowing of land makes the agriculturist almost totally dependent upon the weather. If there is an unusually large amount of rainfall, the immediate surface of the soil is entirely covered by water. On the other hand, if rainfall has been moderate or slight, the ground is usually too dry. The water which normally would have been preserved from the previous season has disappeared, the plowed land being incapable of absorbing and holding much water.

Plants grown on depleted, plowed soils are particularly susceptible to disease and insect pests. Plants are comparable to all forms of animal life in the sense that they suffer from disease when their supply of nutritive matter is defective. The plowed land, lacking as it does a good supply of available minerals,offers the perfect environment for plant disease. It likewise offers ideal environmental conditions to insect pests. No one knows why insects prefer to eat unhealthy plants but it is an unquestioned fact that they do. Possibly the greater proportion of minerals and lesser amount of sugar in the sap of healthy plants is distasteful to the insects. If this theory is correct it means that the human race is indeed fortunate. For it would then be possible to starve the insects by improving the quality of human food. In giving the plants an ideal environment, we would be giving the insects the poorest environment in which to live. The net result would be that insecticides would seldom or never have to be used. This would mean the elimination of another source of toxins for humans, inasmuch as we are slowly poisoned by arsenic and other sprays used to control plant diseases and insect pests.

The depletion of soil through plowing necessarily leads to decreased yields. With our new understanding of soil culture it does not surprise us to find that the Chinese, with virtually no agricultural machinery, and the Egyptian, who stirs his ground with the ancient crooked stick, are able to produce more food per acre than the American and Britisher with all of their heavy machinery. The American farmer only produces a fraction as much as he might, simply because he plows his land. In lowering the quality of his food he also lowers the quantity.

As might be expected, the vitamin and mineral content of foods grown in plowed soil is not as high as it should be. We cannot expect foods to be rich in these elements if the soil is defective. The soil cannot supply the plant with the minerals it does not contain itself. Nor can it provide the minerals if carbonic acid, which renders these available to plants, is lacking. The manufacture of vitamins in the plant must be retarded if the plant is unhealthy. In the final analysis we must go back to the soil to find the cause of many of our chemical deficiencies.

SCIENTIFIC SOIL CULTURE

Soil, as it exists in undisturbed nature in the presence of abundant growing vegetation, generally possesses the highest degree of fertility. It is continually covered with a thick layer of decaying vegetation. There is also a great deal of plant residue scattered throughout the upper layer of the soil. This green manure, both in the soil and on the surface, serves many purposes. It absorbs several times as much rainfall as the pure soil—silt, sand and clay—could normally hold. Erosion is thus reduced to a point almost beyond measurement. There is little or no run-off even in times of very heavy rainfall. The soil (mixed with the green manure) is so absorbent that much of the water is held over long periods of time, thus reducing to a minimum the danger from droughts. The mixture of carbon dioxide and water in the soil's surface forms much carbonic acid, in this way converting many minerals into usable forms for the plants. The saprophitic nitrogen-gathering bacteria are given an opportunity to get their nitrogen in the open as they work in the green manure, thus providing the living plants with their needed nutritive material. There is no difficulty with the normal capillary action in the soil. Hard dried-out clods are entirely absent. In every way the soil is enriched. The plants are given an ideal environment in which to grow—they are rich in vitamins and minerals and highly resistant to all plant diseases and insect pests.

The superiority of Nature's method of soil fertilization is evident from all of these facts. Simple common sense should direct us to cooperate rather than interfere with nature in caring for our soil. Scientific soil culture is not new. It had its origin more than a billion years ago when the first plant developed. We are merely discovering what we should have known all along.

Approximately 90 to nearly 100 per cent of all soil is composed of finely powdered rock. The remainder is composed of decaying organic matter which is provided in the form of plant residue. The finely powdered rock is the primary source of minerals for plants; the organic matter, upon being reduced by myriads of organisms in the soil to liquid decay products, is the secondary source. It is the decaying organic matter which gives fertile soil its black smudge. As the organic matter disappears from the soil the color becomes lighter, and agronomists commence dividing the soil into "types" in accordance with color, texture, etc. The rich, black topsoil of forest lands is from one to three feet deep; that of grasslands which have never been plowed is even deeper—often several times as deep. On the other hand, the plowed lands of American farms have lost much of their black smudge and contain only a very small amount of organic matter, with a corresponding drop in fertility.

Restoring fertility to depleted soils occurs in exact ratio to the amount of organic matter which is re-introduced into the soils and the rate at which this is done. The texture and color of the soil changes entirely as the organic matter is added and soil types, as such, cease to exist, all types tending to merge into one with similar fertility, color and texture. There is no specific treatment of specific soils; the changes in treatment involve only quantity and rate; more organic matter being introduced more rapidly in some cases than in others.

In undisturbed nature it is the work of the earthworms, bugs and other tiny animals to mix the plant residue into the surface of the soil. These animals attack their food with great zeal—chewing upon the plant residue as they mix it in to the soil, digesting it into colloidal forms, which are only a step away from the liquid decay products which the plant can use, and then turning their own dead bodies back to the soil. In forest land as high as ten thousand organisms per square foot are engaged in this process— mixing the plant residue into the soil and converting it into liquid decay products. The work goes on at such speed that, by adding organic matter to depleted soils fertility is restored in but a few years. Plastic, yellowish clay has been transformed into friable, black soil within just a year by covering it with a heavy layer of mulch in the form of leaves. Naturally only the upper few inches of the soil were so converted in such a short space of time, but as the roots of most plants get their nourishment from the upper part of the soil, this change is sufficient to make great differences in the growing conditions of the plants. It may be mentioned in this connection that even trees obtain their chief nourishment from the surface soil—the deeper roots acting as a brace for the tree rather than important sources of nourishment.

Many a profitable business is now operating which sells to gardeners earthworms which can be added to the soil and thus increase its fertility. Such action, whereas it recognizes the important part earthworms play in creating fertile soil, is not based upon a true understanding of the biological activity in the soil. No number of earthworms will particularly aid soil which lacks organic matter. The earthworms of such soil are invariably palled and scrawny, not being able to secure their necesary nourishment. In soil containing liberal amounts of organic matter the opposite is true. In such soil fat and robust earthworms automatically develop in great numbers whether you want them or not. There is absolutely no need to "feed" earthworms to the soil. These great soil-aiders will always be on hand if a proper method of soil care is followed. They are quickly attracted to whatever soil that happens to include an abundance of organic matter in its surface.

Organic matter, in the form of green manure, can be added to the soil in various ways. It can be spread over the ground as a heavy layer of mulch. Special green manure crops may be grown, or the plant residue which remains after harvesting the previous crop may be left on the soil. The land may even be left completely idle, permitting the wild growth of weeds and grasses to take place, which is usually a slower method, as the growth is often not as rapid and complete as that of the green manure crops. The dead remains of any of these forms of plant life—whether they be green manure crops, the residues of harvested crops, or the wild weeds and grasses—are turned over to the soil at the end of each growing season and added to its supply or organic matter.

Any of the forms of green manure mentioned may be introduced into the surface of the soil with machinery if it is necessary to prepare a seed bed, as is of particular importance in the growth of annual grain crops. In such cases it is important that the proper forms of agricultural machinery be employed. The implements to be used for such purposes must naturally vary to some extent, depending upon the soil being used, but in most cases the very heavy types of disk harrows are found most practical. In stoney soils and tough sods heavy cultivators, equipped with chisel-form teeth, are necessary to scarify the soils so that the disk harrow may take hold, and in rare instances initial plowing may be desirable, providing it is done shallow enough to permit the subsequent disking to cut through the entire plowed layer of ground.

Thus far, in the employment of plowless methods of agriculture, the growth of green manure crops, followed by their subsequent disking into the surface of the soil, has been followed most frequently in grain farming, and to a certain extent in vegetable farming. The care of orchard land covered with perennial trees, bushes and small plants need not follow the same pattern as the preparation of land for the seeding of annual grain crops. Covering the ground with a heavy layer of mulch, at least a few inches thick, and maintaining this layer throughout the year, has been the most common method of restoring fertility to orchard land, and will perhaps also be followed in restoring fertility to land covered with nut trees. The layer of mulch creates new topsoil conditions in just a season or two. This method quickly removes many of the plant diseases and pests which have long plagued fruit growers. The fruits attain a new level of palatability, possessing rich flavors and being of the finest quality. Flat-tasting fruits, which are so common today, are absent when this form of soil culture is followed.

Whether one uses green manure crops or mulch to create fertile soil is also dependent upon the scale of farming being followed.When the fertility of very large areas of land is to be restored, it is generally most practical to grow green manure crops which provide the soil with plenty of plant residue within a short space of time. This is simpler and involves less work than obtaining the plant residue elsewhere and spreading it over the ground in the form of mulch. On the other hand, where small garden plots are developed, with the use of hand-tools rather than heavy machinery, it is generally most practical to spread mulch over the surface of the ground. Sufficient plant residue, in the form of straw, leaves, weeds, twigs, etc., is usually available in such cases to cover small areas with mulch and thus permit restoration of soil fertility.

Experiments have shown conclusively that no fertilizer other than green manure is necessary to restore the soil to a fertile condition. Animal manure, colloidal minerals, lava, ashes, bone, lime, phosphoric acid and potash are all unnecessary if sufficient quantities of green manure are provided for the soil. In fact, certain chemical fertilizers are destructive to earthworms and thus interfere with the process of decay of organic matter in the soil. Such fertilizers are anything but beneficial and slow the rate at which fertility is restored. Decaying vegetation is rich in all of the minerals which farmers attempt to supply with artificial fertilizers. It is, in itself, a complete fertilizer.

Advocates of "organic gardening" with the use of compost question these facts, claiming as they do that animal manure or other animal material is necessary in the soil to permit the best results. They may also question whether or not either green manure or animal manure can successfully be used as a fertilizer unless it has first been decayed in compost heaps. Actually the results of composting are very much the same as those of the surface incorporation of green manure. In fact there appear to be certain advantages of letting the plant residue decay in and on the soil rather than in compost heaps, or we would not find the addition of animal products to compost heaps necessary. It is quite possible that there are compensating factors in the soil which make decay of green manure in its surface more beneficial than would such decay be in compost heaps.

Those who advocate compost for restoring soil fertility may also be reminded that decay of animal products occurs in the soil whether these are added in the form of fertilizers or not. The great array of insect and worm life of the soil is itself continually dying and giving way to new life. The decay of these organisms occcurs side by side with decay of plant residue and adds to the supply of the secondary sources of minerals for plant roots. By providing the soil with green manure we cannot avoid the consequent development of animal life, which in turn dies and adds to the supply of decaying organic matter in the soil.

It is apparent that man has created his own soil problems. A simple observation of the healthy, luxurious growth of the unplowed plains and forest shows that quite clearly. Man can speed Nature's method of soil culture but he cannot improve it. The history of the science of agriculture is really the history of man's attempts to interfere with Nature's method of soil fertilization. The greater the interference, the more successful the agriculturist thought his methods were. When he finaly arrived at the point where he found a way to plow the land deeper than ever, he acclaimed the new method as a great improvement in agricultural science. As his plants became more and more deficient in vitamins and minerals, he intensified his efforts to alter and interfere with Nature's plan of fertilization. Today agriculture can hardly be considered a science at all. It is now speculating as to the practicability of breaking the land to depths of two or three feet with new equipment designed for that purpose. Its chief work consists of creating soil which provides us with foods which contain only a fraction as many vitamins and minerals as they should. Indirectly the modern science of agriculture, as it is taught in virtually all universities and practiced on the farms, does much to lower the standard of health of the entire nation.

OUTLOOK FOR THE FUTURE

What is needed is a science of agriculture which is concerned with the production of fruits, vegetables and other foods in terms of quality rather than anything else. The aim should be to create foods which do not have to be sprayed with poisonous arsenic and which are capable of meeting the vitamin and mineral needs of man. Soil culture is more closely related to hygiene than to anything else. It should be considered from the standpoint of its effect upon human health rather than its effect upon any special commercial enterprise. This does not mean that the farmer or anyone else need suffer under a rational system of agriculture. It simply means that the production of foodstuffs should be conducted in the interests of all those who use the food and that the financial welfare of no special agricultural group need be dependent upon any specificc practices which happen to be used. Whether or not this calls for placing agriculture on a purely functional basis may be a matter of some debate. However, one thing is certain. There must be a radical revolution of all agricultural practice if foods which contain adequate amounts of nutritive elements are to be made available. Without this change there can be no such thing as optimum health for the nation as a whole.

Agricultural reform must be followed on a national scale if all are to profit therefrom. City-dwellers are dependent upon the farmer for the production of their foodstuffs. They cannot use the mineral-rich, spray-free plants of fertile soils if the farmers do not grow them. And the efforts of a few farmers are of little avail if the rest insist upon following agricultural orthodoxy. A planned program of agricultural reform throughtout the nation is the only solution.

Until such reform takes place you will have to continue eating foods which have been grown on depleted soil—that is, unless you have a garden of your own. And this is all the more reason for using a natural diet. Even if the unrefined, uncooked foods you eat do not contain as many vitamins and minerals as they should, they are still your best sources of these elements and your best foods. The depletion of soil makes it doubly important that you use foods which have lost none of their vitamins and minerals through the process of cooking and refining. You can't afford to take the chance of depriving yourself of these elements in any more ways than you have to. Perhaps you can't get the best foods, but those you do obtain you can always eat in their finest condition so as to meet as closely as possible the nutritive needs of the body.

CHAPTER 12

Nature's Supreme Healing Agency

How The Body is Restored to Health While Fasting

Perhaps the greatest discovery of the last century in the field of hygiene has been that of the value of fasting as a disease-remedying agent. Throughout history many people have fasted occasionally for religious reasons. Their aim was to purify the soul, not the body. Fasting once formed a standard rite of the three great religions: Christianity, Buddhism and Mohammedanism. Christ was said to have fasted 40 days and 40 nights. Wherever Buddhism has spread fasting has been kept alive. The Mohammedans have their month of "Ramadan" each year during which time they fast every day from sunrise to sunset. We even find that fasting was a religious rite of many of the earlier tribes of Indians of North and South America.

Scientists do not know anything about the relation of fasting to what is called the soul. However, they have discovered that fasting is of supreme importance in remedying the diseases of the body, that it is really the most rapid and effective means of doing this. It is often called "the fast way to health" and is recommended for those who desire to become well in the shortest possible time.

Fasting, in its modern phase, had its origin in the early part of the 19th century with the hygienists who lived at that time. Dr. Jennings knew a little of fasting but did not employ it extensively. Sylvester Graham often recommended abstinence from food for a few meals. The same is true of some of the hygienists who followed Graham, including Dr. Robert Walter and Dr. Page. However, it was left to Dr. Henry S. Tanner and Dr. Edward Hooker Dewey to discover how valuable fasting can really be. They are usually considered the fathers of scientific fasting and they are rightly deserving of this title.

The use of fasting as a means to eliminate disease has been restricted chiefly to the hygienists. Orthodox medicine has always condemned fasting although it has not carried out any investigations to determine its value. The idea of fasting to remedy disease is, to the medical mind, too fantastic to be given any consideration. It is placed on their list of "fads" in the hope it will die a natural death.

In spite of this attitude, hygienists have continued to use fasting in ever increasing numbers of cases and always with favorable results. It has become the foundation of all hygienic practice and is the chief measure which the hygienist uses to eradicate disease. Even though the medical practitioners continue to ignore it, fasting remains nature's great means of allowing the body to accomplish its healing; and it is the only hope that many sick people may have.

DEFINITION OF FASTING

Before any understanding of the merits of fasting can be had you must gain a clear understanding of what fasting really is. One often hears of fruit fasts, fruit juice fasts, water fasts, milk fasts and many other types. Such unscientific terminology leads to much confusion and results in many misconceptions regarding the true nature of fasting. Fasting is abstinence from food. That fact must be clearly understood. It does not mean abstinence from water. It does not consist of fruit juice diets. It does not consist of milk diets. It is not synonymous with starvation. Fasting is simply the abstinence from food for a long or short period of time (depending upon the condition of the patient) until the starvation period is reached. During starvation abstinence from food is also practiced, but there remain fundamental differences between fasting and starvation.

WHY YOU SHOULD FAST

The chief purpose of fasting is to eliminate the accumulations of toxins in the body. The elimination of toxemia, which is a basic cause of disease, is of supreme importance if health is to be restored. By eliminating toxemia, fasting restores health. Normally a large part of the body's available store of energy is devoted to the work of digestion and assimilation. During the fast when no food is eaten, the energy which would otherwise be devoted to those functions may be used for the purposes of elimination. During every fast the eliminative processes are speeded up. Catarrhal eliminations are greatly increased. The breath becomes very offensive as a result of increased elimination through the lungs. There is often an extreme body odor, which probably results from the greater eliminative efforts on the parts of the skin. The toxicity of the urine is increased due to the additional toxins eliminated through the kidneys. In some cases literally huge amounts of toxin material is eliminated from the digestive tract through vomiting. Other toxins are probably burned in the body through processes which are yet not understood. Generally speaking, the body is given a through cleansing. It is given a clean foundation upon which to work and build.

The causes of toxemia are many, but we must often do more than correct the causes to eliminate the toxemia, once it exists. For instance, toxemia may be produced by a diet which is deficient in vitamins and minerals, the lack of which may impair elimination, but it does not necessarily follow that the simple adoption of a proper diet rich in such elements is certain to eliminate the accumulations of toxins in the body. That a proper diet allows the body to eliminate many of the excessive toxins we admit, but in cases where a deep-seated disease exists, involving large amounts of toxins, fasting is usually required.

Perhaps the most important secondary factor to be considered is the rejuvenation which occurs during a fast. It is a well known fact that degeneration of tissue is usually allied with old age and disease, whereas tissues which, from a physiological standpoint, have been rejuvenated, are usually allied with youth and freedom from disease. That rejuvenation of tissue occurs while fasting has indeed been proven. The British scientist, Prof. Huxley, has shown that periodic fasting can greatly prolong the span of life in the lower forms of animals, and it is probable that it can do likewise in man, though not to such a great extent. Prof. Huxley took a number of worms, isolated one from the rest, and placed it on periodic fasts. The remaining worms were given the same food as the isolated worm but were not fasted at periodic intervals. It is notable that the isolated worm lived 19 times as long as the others. Prof. Child, of the University of Chicago, fasted some old worms until they were reduced considerably in size. When they were fed and started to grow again they were as young, from a physiological standpoint, as they ever were. In many other forms of animal life the same rejuvenation is seen as a result of fasting. There are some species which pass through their life span in three to four weeks. However, when, because of lack of food, they are forced to fast at intervals, they often remain young and active for three years.

Of course rejuvenation does not occur in man to the same extent that it does in the lower animals. However, it does occur, as was shown by Dr. Carlson and Dr. Kunde of the University of Chicago. These doctors placed a 40-year-old man on a 14 day fast. At the end of the fast his tissues were in the same physiological condition as those of a 14-year-old boy. The physiological condition of the tissues of Mahatma Ghandi, the Indian leader, at the age of 64 was found to be similar to that of the average man of 40 years of age. It should be remembered in this connection that Ghandi is well known for his numerous fasts.

Experiments at the Hull Biological laboratory, of the University of Chicago, have shown that fasting produces a permanent increase in the metabolic rate. In these experiments both dogs and humans were fasted for extended periods. In fasts of from 30 to 40 days a five to six percent increase in the metabolic rate was observed. A lower metabolic rate is usually associated with old age. Fasting, then, by offering the possibility of rejuvenation by raising the metabolic rate, becomes the enemy of physiological age.

Fasting is the best known method of giving the organs of the body a rest.. Restricted diet may do the same thing but not to such a great extent. Many organs are overworked, largely because of overeating and the eating of improper food. The prolonged overworking of an organ leads to impaired elimination and lowered efficiency. On a fast the organ is given a chance to recuperate, to restore its vital powers and to regain its normal efficient function.

Autolysis is the dissolving or digesting of tissue by various ferments which are generated in the body cells. It is by autolysis that many abnormal growths are removed on a fast. The disintegration of the growths, followed by their absorbtion, has been noted again and again during fasts. Tumors as large as a grapefruit have disappeared on long fasts. Tumors as large as a goose egg disappear on fasts of a few weeks duration. Small growths the size of a pea usually disappear after three or four days of fasting. The autolyzation of abnormal growths during fasts have been observed in thousands of cases in Europe and America.

Lack of assimilative power is no doubt responsible for numerous deficiencies of vitamins and minerals in various parts of the body. For instance, the major cause of many cases of anemia is not the actual lack of iron in food, but rather it is the lack of power of the body to completely assimilate the iron which is found in the food. This is shown by the fact that on a fast, when the assimilative powers of anemia patients are strengthened, the blood count increases very rapidly. During fasting, the iron not completely assimilated, which has been stored in the body, is taken up by the blood and used. In some cases the blood count actually doubles on a fast. Underweight is often due to the body's lack of assimilative power. On a fast this power is strengthened, thus permitting a rapid gain of weight when food is again eaten.

The power of digestion must be strong if we are to attain the greatest benefit from our food. Weakened digestive power is usually followed by poor health. The digestive organs are given a rest on the fast and allowed to recuperate and gain in strength. People with weak digestive power generally experience no difficulty digesting food after a fast of sufficient duration, providing, of course, that the diet followed after the fast is of the proper type.

The powers of the mind are also increased on the fast. Memory becomes remarkably clear, and the mental activities and processes are sharpened. The use of fasting in cases of mental disorders has produced remarkable results. Even insanity has been remedied in some cases. The brain and nervous system are apparently regenerated by fasting as completely as the other parts of the body.

EFFICIENCY OF FASTING

In determining whether or not to fast, what you want to know above all else is just what you may expect in the way of results. The simple question, "Does it work?" is probably paramount in your mind. In determining the ultimate value of anything we must use that question as our guide. If fasting works, if it produces the desired results, we will give it our due attention. It the desired results are not attained it need be of little concern to us. Fasting should be judged strictly from the standpoint of its efficiency.

Dr. Herbert M. Shelton, of San Antonio, Texas, has had more practical experience with fasting than any other living man. He has conducted over 20,000 fasts, varying in length from a few days to as many months. His patients consist largely of those who have tried everything else—medicine, surgery, chiropractic etc. —all to no avail. They decide to try fasting as a last resort. Heart disease, ulcers, colitis, asthma, sinusitis, tumors and arthritis are common among the afflictions of his patients. With such scrap material the doctor has made an amazing record. He reports that 95 per cent of the patients at his health school have recovered health, and those who have made lengthy observations of his patients during care do not deny the accuracy of this figure. Very few patients who leave the health school after the full course fail to claim great benefit or complete recovery.

The results of fasting in other sanatoriums and health institutes throughout America have also been highly favorable. The case history of the patients at the Bergholtz Clinic in Milwaukee, Wis. (prior to the death of its founder in 1941) are especially revealing as to the efficiency of fasting. The experiences of the late William Howard Hay, M. D., while director of the great sanatorium at Pocono Haven, Pa., include, among others, the supervision of over 400 fasting patients who were afflicted with appendicitis. In nineteen cases the appendix had already ruptured. Yet, complete recovery occurred in every case. In no instance was surgery resorted to. The late Dr. J.M. Tilden of Denver, Colo., founder of the health institute in which fasting was used extensively, and the late Dr. G.S. Weger of Redlands, Calif., have repeatedly shown by their own extensive experience the marvelous efficiency of fasting. The results they obtained were fully as favorable as those of Dr. Hay. The success of Linda Burfield Hazzard, whose experience with fasting covered nearly 2,500 patients, received widespread attention in hygienic circles.

The noted American writer, Upton Sinclair, of Pasadena, Calif., has given some statistics regarding fasting which are highly favorable. He published a request in a national magazine asking those who have fasted to write him of the results. The following questions were asked:

1. How many times have you fasted?
2. How many days on each occasion?
3. From what complaints did you suffer?
4. Were these complaints ever diagnosed by a regular physician? If so, give the name and address of the physician.
5. Do you consider that you were benefited by the fasts? If so, in what way?
6. For how long did the benefit continue?
7. Do you consider that you were definitely cured?
8. Do you consider that you were definitely harmed? If so, in what way?
9. Have you ever been examined by any regular

physician since the fast? If so, give the name and address.

10. Are you willing that your name and address should be quoted for the benefits of others?

There was a total of 117 people who wrote to Sinclair. All had fasted one or more times. The total number of fasts taken was 277, and the average number of days per fast was six. Ninety of the fasts exceeded four days in length, and six fasts were 30 days or longer in duration. Of those who wrote to Sinclair, 100 reported benefit. Of the 17 who were not helped, about half gave the wrong breaking of the fast as the reason for the failure and some of the rest made this evident in their letters. Also, it should be noted that of those not helped, nearly all fasted only a few days. In those instances where a recurrence of the ailment was experienced after recovery was made on the fast, half gave wrong eating as the cause of the recurrence and most of the rest indirectly indicated such in their letters.

The following list gives the names of the diseases which were partially or completely remedied by the fasts. The number after each disease indicates the number of patients suffering from it who were benefited.

Nervousness	27
Constipation	14
Colds	8
Catarrh	6
Neurasthenia	6
Rheumatism	5
Brochial Trouble	5
Headaches	5
Liver Trouble	5
General Debility	5
Tuberculosis	4
Anemia	3
Poor Circulation	3
Appendicitis	3
Uric Acid Excess	2
Syphilis	1
Scrofula	1
Cancer	1
Gas Poisoning	1
Insomnia	1
Grippe	1
Valvular Disease of the Heart	1

Pleurisy	1
Epilepsy	1
Asthma	1
Sciatica	1
Locomotor Ataxia	1
Blood Poisoning	1
Chills and Fever	1
Ulcerated Leg	1

It will be noted that, although 100 individuals reported benefit from fasting, 116 diseases are listed. This is due to the fact that some of the patients suffered from more than one disease. Their total recovery raised the number of diseases helped above the number of patients.

The fasts reported by Sinclair took place many years ago when knowledge regarding the proper conduct of the fast, the breaking of the fast, and the method of living afterward, were in many respects inadequate. Even so, the percentage of patients reporting benefit was unusually large. Statistics indicate that a higher percentage of recoveries of a wide variety of diseases occur as a result of fasting than of any other therapeutic measure, either medical or drugless.

Many of the so-called incurable diseases which are said to baffle medical science readily yield to the fast. Consider leprosy for instance.Leper colonies are maintained under medical supervision but recovery from leprosy in such colonies is extremely rare. Nevertheless, in as little as 21 days of fasting leprosy has been completely remedied. Heart disease and cancer, two of the most common degenerative diseases for which medical science can do little or nothing, often yield to fasting if not allowed to become too far advanced. Leukemia and Bright's disease, long considered incurable, respond favorably to fasting.

We should not restrict the use of fasting to remedying specific diseases. The majority of diseases which are now common in civilized societies have been treated effectively by fasting, and it is probable that those few not yet so treated will respond favorably to this healing medium. Virtually all acute diseases, catarrh, sinusitis, tuberculosis, digestive ailments, constipation, pyorrhea, acne, infantile paralysis, ulcers, colitis, hemorrhoids and anemia, as well as numerous other diseases, are usually helped or completely remedied by fasting. Fasting is no panacea for all human ailments but it is the closest known approach to such. It does not suppress disease but simply removes the need for it.

FASTING IS NOT DIFFICULT

The idea of going without food for a few weeks is obnoxious to those who have not fasted. They have felt the pangs of hunger that followed a missing meal or two and have the impression that such hunger lasts throughout an entire long fast. The knowledge that hunger usually exists only during the first few days of the fast should do much to dispel the ideas about the supposed difficulty of fasting. When hunger is absent abstinence from food is not particularly difficult. Of course, some unpleasant symptoms such as general weakness, headaches, backaches, nausea and vomiting occur in some cases. But even so, fasting is not nearly so difficult as is commonly imagined. Certainly it is not as trying an ordeal as going through medical treatment and the pain of the continued disease.

THERE IS NO DANGER

It is the commonly accepted opinion among laymen and orthodox physician alike that fasting is very dangerous. People are told that they are risking their lives by going without food. In reality, fasting is not dangerous at all. There is no record of a single death occurring as a result of a properly conducted fast. People have died while fasting but the deaths were not due to fasting. Rather, they were due to the presence of an organic disease. Of the 2,500 fasting patients of Linda Burfield Hazzard, eighteen died. In each case an autopsy was performed to fix responsibility for the death. In no instance was the death found to be due to fasting. There was invariably present an organic disease which, according to the medical examiners themselves, caused the death.

When people fast they are usually in the last stages of degeneration. Most of them have tried everything—drugs, surgery, osteopathy, chiropractic, etc. —all to no avail. Finally, as a last resort, they try fasting. Many are near death when they start to fast. It is quite obvious that some of them are going to die whether they fast or not. They have simply gone to far and nothing, not even fasting, will prevent their death. In such cases it is wrong to place responsibility for the death on fasting. Thousands of people who die in hospitals are said to die "in spite of all that medical science could do." But when one dies while fasting it is the fast which is held responsible until an autopsy provides the true cause of death.

Thousands of people recover health while fasting. Little or nothing is heard of them. Their marvelous recoveries are not given publicity. But let just one person die while fasting and the medical authorities are in an uproar. They speak of the doctor who "starved his patient to death." An autopsy is demanded to fix responsibility for the death, and the doctor's reputation is all but ruined.

OBJECTIONS TO FASTING

Objections to the fast come freely from medical quarters. In addition to their time-worn objection that fasting is dangerous, they declare:

1. Fasting weakens the heart.
2. Fasting causes the stomach to atrophy.
3. Fasting makes the heart collapse.
4. Fasting causes the digestive juices to digest the stomach.
5. Fasting produces deficiency diseases.
6. Fasting is opposed to our natural instincts.
7. Fasting causes the cell of the body to degenerate.
8. Fasting weakens the body and thus lower its resistance to disease.
9. Fasting causes the teeth to decay.
10. Fasting produces edema.

None of these objections to fasting stand in the light of true reason and practical experience. It is notable that they are limited almost entirely to those who have had little or no experience with fasting. Such being the case we needn't take them too seriously. However, it may be well to touch upon each of them briefly for the benefit of those who have had no previous knowledge of fasting and those who have been victims of medical misinformation.

There are no authentic records of any case of heart weakness or heart collapse resulting from fasting. The heart is really benefited by the fast. It is given a rest and allowed to gain new strength. Many patients with serious cases of heart disease have fully recovered while fasting. If fasting harmed the heart we could not expect such recoveries to occur.

The stomach does not atrophy while fasting and the digestive juices do not digest the stomach. The origin of beliefs to the contrary is not known. However, they certainly were not the result of experience with fasting. It is more likely that they began as superstitions, to be latter tranferred to medical science as ammunition for the anti-fasting campaign.

As for the deficiency diseases, these do not occur while fasting; at least no hygienic practitioner has ever seen them develop. Claims that fasting produces these diseases have resulted from studies of defective diets which lacked a wide variety of vitamins and minerals. It is assumed that if these diets produce deficiency diseases they actually disappear while fasting. The vitamins and minerals which are stored in the various organs are taken up by the blood and used. Prior to the fast general physiological inefficiency, due to toxemia, prevented this.

Fasting is instinctive among practically all wild animals. In case of an occasional illness, or a serious wound resulting from accident or battle, they fast until recovery is complete. Even domesticated animals frequently refuse all food when sick. Among man also, fasting is entirely in accordance with natural instincts. When acute disease exists there is usually no desire for foods, and when fasting is instituted for chronic disease, hunger disappears after the first few days. We cannot truly say then that fasting is opposed to our natural instincts. Indeed, eating in the absence of true hunger is opposed to the normal instincts of all animals. However, we do not use these facts as an argument for fasting or not fasting. Science rather than instinct is the first guide to use in determining the value of a specific health measure. The few facts given here are offered simply to show the fallacy of the belief that fasting is opposed to our natural instincts.

The assumption that body cells and tissues degenerate during a fast results from confusing fasting with starvation. Degeneration of the tissues of animals in the last stages of starvation has been observed, and this has lead to the belief that fasting is dangerous. Degeneration of tissues does not occur until the body's food reserves have been exhausted, and a properly conducted fast does not extend beyond that point. During a fast, rejuvenation, not degeneration, occurs.

It is true that fasting patients are weaker than usual, but there is no evidence to indicate that this temporary weakness lowers their resistance to disease or impairs their health in any way. Resistance to disease actually increases on a fast and remains permanent if a proper mode of living is then adopted. The temporary weakness during the fast is followed by unusually great strength. Patients who have been so weak they could hardly walk have become strong and athletic after fasts.

Tooth decay is arrested rather than caused by a fast. Repeatedly, hygienic practitioners have noticed that the condition of the teeth improves during the fast. Often loose teeth become tightly fixed in their sockets. Laboratory investigators also agree that fasting does not harm the teeth, even when the fast is carried to the starvation stage.

Some years ago laboratory workers at the University of Chicago placed numerous patients on salt-water fasts. They were given salt-water—nothing else. All developed edema. As a result it was assumed that fasting is certain to cause edema in every case. No one needs dispute the fact that salt tends to produce edema. Hygienists were the first to claim that the use of salt was frequently followed by water-logging of the tissues. On salt-water fasts the tissues should be expected to become water-logged. It is only natural that the body should protect itself against the irritating effects of salt by holding it in solution, even if this calls for an excess of water in the tissues. The objection here is not to fasting but to the use of salt. Edema does not occur while fasting if no salt is given. Temporary edema has been seen to follow very long salt-free fasts but these were very rare occurrences and it is probable that they were due to the over-ingestion of food immediately following the fast.

FASTING DURING SPECIAL PERIODS OF LIFE

There are no age barriers to fasting. Both aged individuals and young children have fasted with great benefit. Even infants may be placed on short fasts, and there are cases of two and three year old children fasting for a few weeks. The only periods of life in which fasting is inadvisable are those of pregnancy and lactation. Fasting stops the secretion of milk and hence prevents the mother from nursing her child. During pregnancy short fasts to remedy acute disease are permissible but long fasts should not be used.

SYMPTOMS OF THE FAST

A knowledge of symptoms of fasting should be had by all of those who plan to fast. Unnecessary alarm has been caused when patients did not know what to expect and became frightened at the slightest symptoms. At least a few unpleasant symptoms occur on almost every fast. They should be expected and need be no cause for great concern.

During the first two to five days (usually three days) there is generally a great desire for food. However, this desire then disappears; hunger simply doesn't exist. There is repugnance to every kind of food, and vomiting may even occur occasionally at the sight and smell of food. It is at this stage that the fast becomes quite easy and usually remains so to the very end when hunger returns. About one in each forty patients remained hungry throughout the fast. The reason for this is not known.

On nearly every fast the tongue becomes heavily coated, the breath is very offensive, and a bad taste develops in the mouth. These conditions usually start after the second or third day and remain throughout the entire length of the fast until hunger returns.

When there is acute disease, with fever, the temperature drops to normal on the fast. When it is below normal at the begining of the fast, it gradually rises to normal and remains there. In rare cases, when no acute disease exists, the temperature rises above normal for short periods.

Usually the pulse is normal on the fast. It may rise to as high as 120 and in some cases it has dropped to as low as 40, though of course such extremes are not common.

Most fasting patients do not sleep more than four to six hours a day though this is not always the rule. The exact opposite occurs in some cases in which as much as 20 hours a day are spent sleeping.

Vomiting, spitting, skin eruptions, headaches, backaches, dizziness, hiccoughs, fainting spells, weakness, sore throat, light colds, cramps and diarrhea occasionally occur for temporary periods on some fasts. Though such symptoms are discomforting they are no cause for alarm, and some of them, such as vomiting, skin eruptions, colds and diarrhea, actually hasten the rate of elimination. Some patients do not experience any of these symptoms and have no discomfort whereas among others the opposite is true.

Some symptoms of fasting should be given careful attention. Among these are delirium associated with heart palpitation; heart palpitation which is not due to gas pressure and consequently not remedied by using an enema; a persistent, very rapid, very slow or very erratic pulse; extreme weakness in which the patient is unable to walk alone or experiences much difficulty in doing so; or a sudden drop in body temperature. When these symptoms occur it is generally best to break the fast. Also, when a patient possesses an extreme fear of continuing to fast it is best not to do so.

Most individuals have very few or no bowel movements while fasting. This need cause no concern nor alarm. Bowel action is quickly restored after the fast.

While fasting a rapid loss of weight is to be expected. The rate varies in different cases, with the overweight individuals losing weight most rapidly. During the early days of the fast the loss is most rapid, usually from one to two pounds a day. Toward the end of the fast the rate of loss is usually well under a pound a day. Averages taken among large groups of fasting patients during all stages of the fast show that the average loss of weight is about one pound a day.

THINGS TO REMEMBER WHILE FASTING

It is quite obvious that while fasting you cannot continue living in the conventional manner. You must give your body special considerations. This does not involve the complete cessation of all normal activities, but certain changes must be made to enable the body to conserve its energy.

During the fast rest is highly desirable. The ideal fast is spent at least most of the time in bed. Some hygienic practitioners require that their patients remain in bed throughout every fast regardless of their strength and energy. Such practices are not harmful but neither are they always necessary. During the short fasts, when you do not feel particularly weak, there should be no objection to doing some light work and perhaps even exercising a little. The important thing here is to avoid excesses. Work a little while fasting if you feel able but do not go to extremes and weaken yourself too much. Some people fast and continue working as usual but such practices are not always without their dangers.

Sunbaths are valuable during the fast just as they are at any other time. However, great care should be taken to avoid excessive amounts of sunshine. More than one fasting patient has suffered from a sunstroke. These sunstrokes did not end fatally but show the need for being careful at this time. Long sunbaths will weaken you too much while you are fasting. Take sunbaths of short duration during the early morning or late afternoon rather than in the middle of the day when the temperature is the highest.

One cannot stress too much the importance of keeping warm while fasting. Getting chilled on the fast will not only make you uncomfortable but also is exceedingly dangerous. In times of an extreme chill apply artificial heat and break the fast. There are no records of fasting patients dying from excessive exposure to cold temperatures, but hygienic practitioners are always careful to avoid such conditions.

Probably the most controversial subject among authorities is how much water to drink while fasting. There are those who advise at least a gallon of water a day and those who recommend water-free fasts. Others have taken the middle of the road and claimed that thirst, and thirst alone, should be the guide. There need be no doubt but what the latter claim is correct. A gallon or more of water each day on the fast is usually greatly in excess of the actual need, and can only impede elimination. Water-free fasts are exceedingly dangerous and should never be employed. There are no records of anyone living longer than seventeen days in the absence of all water and food. A certain amount of water is essential on every long fast. Fasting two or three days without water probably does no harm, but longer fasts in the absence of water are inadvisible. The actual desire of water on a fast is usually not great, but can be relied upon to meet all needs. It usually calls for about a pint to a quart or two of water each day, depending upon each individual case. Occasionally days may arise on the fast in which no water is desired, in which case no water need be taken if the length of time does not exceed a few days. The best water to use on the fast is distilled water. If this is not obtainable, use ordinary spring water or, as a last resort, the chlorinated city water.

Another controversial point involves the use of the enema while fasting. The forces are divided here, about 50 per cent recommending the enema and the other 50 per cent objecting to its use. All facts considered, its employment seems undesirable unless considerable gas in the digestive tract produces too much discomfort. Enemas drain the patient's vitality too much and have a tendency to produce future constipation by weakening the colon muscle. Many hygienists have noted that bowel action is resumed more rapidly after the fast if the enema has not been used.

The use of chiropractic treatments, gastric lavages, Turkish baths, cold baths and other treatments is dangerous and detrimental during a fast. While fasting you will be in no position to expend your already lowered vitality on such practices. Treatments involving the use of serums, drugs and vaccines are even more harmful and, under all conditions, should be avoided.

THE COMPLETE FAST

The exact differences between fasting and starvation should be well understood by every fasting patient and every doctor who uses fasting in his practice. It is regrettable that many doctors have seen fit to employ fasting without having the slightest idea that it is not synonymous with starvation. Ignorance of the exact differences between these two phases of abstinence from food can easily lead to irreparable harm to a patient, including death.

During fasting the body feeds upon its foods reserves. With the elimination of these and the complete elimination of toxemia the starvation period begins, with the consumption and degeneration of vital tissues. A fast which lasts up to this period is said to be "complete". It has carried the work of renovation, rejuvenation, and cleansing to its final consummation.

There are some patients who do not need a complete fast; others do not get well without a complete fast, and those who are emaciated and very weak should not always have a complete fast. No strict rule can be given here. Whether or not a fast should be carried to completion depends upon the condition of the patient and the type of disease which is present . Deep seated conditions which have existed for years and gone into their most advanced stages are seldom remedied by incomplete fasts. Light acute and chronic diseases usually disappear long before the starvation period is reached.

When the food reserves of the body are exhausted and the toxemia is eliminated certain symptoms occur which may be regarded as an indication for breaking the fast. In every case there is a return of hunger and a removal of coating from the tongue.The edges and the tip of the tongue clear first with the rest quickly following. The bad taste in the mouth and the offensive breath likewise disappears at this time. The pulse and temperature, which may have been abnormal, become normal. The eyes frequently brighten, salivary secretion is normalized, and the urine, which may have been discolored, becomes clear. Of these symptoms, the return of hunger and the clearing of the tongue are the only certain and unmistakable signs which denote the completion of the fast. The others are usually present, but in the absence of the return of hunger and clean tongue they are not sufficient reason for breaking the fast. Also, it is to be remembered that the return of hunger and clean tongue do not always occur at exactly the same time. One may arrive a few hours or more after the other. Under any conditions the fast should be broken at the sign of either symptom. One should not, for instance, hesitate to break the fast if there is an unmistakable desire for food even though the tongue is not clean and vice versa. In those rare cases in which hunger is not lost on the fast the clearing of the tongue will suffice as a guide to determining the completion of the fast.

This time required for the fast to reach completion varies in the individual cases. Some people experience the return of hunger after as little as two or three weeks whereas others will have to fast two or three months before this occurs. The length of the average complete fast is from 20 to 40 days.

BREAKING THE FAST

It is highly important that the fast be broken on the proper food. People have broken fasts on everything from beef steaks and peanuts to ice cream, and then wondered why they doubled up in pain after eating their first meal. After the fast the digestive system is very sensitive to the first food eaten. It will react violently if this food is not of the correct type.

Those who have wide experience with fasting agree fasts are best broken on fresh fruit juice or vegetable juice. Discomfort is virtually never experienced when such foods are used. Fruit juices are generally preferred: Orange juice, grapefruit juice, grape juice, melon juice, pineapple juice and tomato juice are those most commonly used. The fast should be broken on one-half glass of juice, followed by the same amount every hour or by one glass every two hours for the rest of the day. The first juices should be sipped very slowly.

On the second day the same schedule may be followed, or the juices may be taken at less frequent intervals. A three-meal-a-day plan may be adopted if desired, about one pint of juice being taken at each meal. On the following days larger amounts of juice may be allowed, care always being taken, however, to avoid excesses which might produce digestive discomfort.

The length of time the diet of fruit and vegetable juices, or simply the diet of fruit juices, should continue depends chiefly upon the length of the fast. It is generally advisable to live upon the juices about one day for each five days of fasting. For instance, a fast of five days or less would be followed by one day of the juice diet; a ten day fast, by a two day juice diet; a fifteen day fast, by a three day juice diet, and a twenty day fast, by a four day juice diet. The same principle is applied to all fasts—the longer the food has been withheld, the longer the juice diet should be employed.

These guides are general rather than specific. Slight deviation from them may be made in different cases. Some patients need not employ the juice diet quite as long as others who have fasted an equal length of time. The patient who shows a history of a digestive weakness should live upon the juices the longest and consume them in the smallest amounts. Should a return to a normal diet be made prematurely, considerable digestive distress may be experienced. The object, in any case, should be to live upon juices until the digestive organs have regained their power of normal function.

Upon the conclusion of the juice diet all types of fruits, vegetables, and nuts may be eaten. A slow transition to a normal diet, so frequently recommended, is unnecessary if the juice diet is employed for the specified length of time. However, the first regular meals should be quite small. It is particularly important that overeating be avoided at this time.

Some of the authorities claim that fasts should be broken on coarse, rough food such as whole wheat melba toast and vegetable salads. These rough foods are used to "brush away the poisons which are deposited in the intestines during the fast." If there are poisons and filth in the intestines after the fast, fruit juices will promote their elimination more efficiently than would other foods.

The use of an exclusive milk diet for a few days or weeks after the fast was once very popular but now is seldom used. Such a diet removes much of the benefit achieved on the fast. It has a tendency to create constipation, digestive troubles and catarrhal diseases. Its use after the fast or at any other time is not to be recommended.

LIVING AFTER THE FAST

"The fast is in vain if the patient returns to his old habits". This remark by Dr. J.M. Tilden should be memorized by all those who undertake the fast. People build disease through their hygienic mode of living. The fasting removes the disease, but the removal is certain to be permanent only if the old living habits are not again adopted. Fasting can provide health but only hygienic living can preserve it.

The earliest exponents of fasting knew practically nothing of the newer knowledge of nutrition and hence the results they secured were only temporary. Dr. E.H. Dewey, one of the first to employ fasting, strongly objected to acid fruits, used very few green vegetables, and lived chiefly upon bread, pastries, milk, fish, eggs and meat. Dr. Eales broke a 30 days fast on Horlick's malted milk and was soon eating eggs and rice. He writes that shortly after the fast he "had a cup of coffee" with some friends. Bernarr McFadden formerly recommended breaking each fast on milk and also used the milk diet for weeks following the fast. Upton Sinclair followed his first fast with a prolonged milk diet. Pearson lived for the first week after one of his long fasts upon sweet chocolate, peanuts and malted milks. Dietary habits such as these remove much of the benefit secured on the fast. Malted milk, coffee, eggs, meat, chocolate and similar foods build disease, not health. We can excuse Dr. Dewey and Dr. Eales for using incorrect foods, because when they lived much of our present knowledge of nutrition was yet to be discovered. But now things are different. We know exactly which foods build disease and which foods build health. The element of chance has been eliminated.No longer need we choose our foods according to guesswork; science has told us which are the best and which will help us preserve the freedom from disease acquired on the fast.

On a long fast there is often a very great reduction in weight until the patient becomes very thin. Naturally this detracts from the physical appearance, and hence there is often a great desire to regain all of the lost weight as rapidly as possible after the fast. The result is frequently the overconsumption of many highly concentrated foods. Milk, eggs, cheese and meat are chosen because they help to put on weight in the shortest period of time. The gain is usually more rapid than was the loss during the fast. Within a few weeks all of the weight may have been regained and the patient is satisfied. However, these rapid gains are undesirable. They produce flesh which is unhealthy, flabby and watery. Really good, sound, healthy flesh is built slowly after the fast. It does not come at the rate of one and one half to two pounds a day—such rapid gains indicate that the diet must be faulty. On the fruitarian diet the gain will be slower, often not in excess of one-half pound a day. But a little patience here will have its reward. It will provide you with firm, healthy flesh. And that is what you want, even if the price, in terms of time, is higher than might otherwise be required.

The people who claim that they "need a fast every now and then" might be compared to those who spent their time sweeping rainwater out of their home instead of repairing the roof. If you need to fast at periodic intervals throughout your life it is because your mode of living is not proper. Once disease is removed by fasting it does not reappear unless it is built all over again. If you restore health on a long fast and live in a hygienic manner thereafter you will not have to fast again. Periodic fasts are harmless but they are not necessary for those who give adequate attention to food, exercise, sunshine, fresh air, mental tranquility, etc. after their first fast, assuming of course that this fast was of sufficient duration.

So remember these important facts. Fasting constitutes a part of the Hygienic System. It is not to be used alone with utter disregard for other phases of living. Permanent results call for permanent hygienic living. Make your fast the turning point of your life. Make it a rule never to deviate from the fruitarian diet and a planned system of exercise and sunbathing therafter. Build health on the fast and then preserve it indefinitely with a personalized hygienic design for living.

CHAPTER 13

The Value of Heliotherapy

Employing the Power of the Sun In Gaining and Preserving the Finest Physical Condition

Heliotherapy is the application of sunbathing as a means of restoring health. Its place in the Hygienic System is an important one. Orthodox physicians still call those who take sunbaths faddists, but we cannot dismiss the subject so lightly. Tricks of terminology do not alter the healthful effects of sunshine. The fact is that heliotherapy is always an aid in restoring health and in many cases it is the most important health measure to be employed.

The most enthusiatic exponents of heliotherapy are generally those who have employed it in large numbers of cases. These men based their conclusions chiefly on their own experiences and follow a strictly scientific approach to the matter. Their basic concern is the efficiency of heliotherapy... as determined by its employment in thousands of cases, covering a wide variety of diseased conditions. By considering the most important phases and results of this work, we can determine quite accurately the health value of sunbathing and the role it must play in modern life.

HISTORICAL

The first records of sunbathing come from ancient Greece, Egypt, Rome, Babylon, Assyria and Persia. The Egyptians, Babylonians and Assyrians all had their sun gardens, and many of these people gave the sun the dignity of a God. The Greeks had many solariums which they called helioses, and the greatest of the Greek physicians, Hippocrates, recommended the use of sunbathing and equipped his sanatorium on the isle of Cos with a large solarium. Herodotos and Philostratus of Greece also extol the great value of sunbathing, and Philostratus claimed that all of the Olympian athletes took sunbaths. The Roman writers, Galen, Cicero, Celus, and Pliny tell of the use of the Roman solariums. Pliny is well known for his remark: "Sol est remediorum maximum"— the sun is the best remedy. Even the old Germanic tribes employed sunbathing. The epic

German poem, the "Edda", tells us that feverish children were placed in the sunshine on the tops of houses so that they might recover more rapidly.

In the Third Century, A.D., the triumph of Christianity put an end to the practice of sunbathing throughout most of Europe. For over a thousand years thereafter the use of sunbathing was restricted almost entirely to the Jews and Arabians. The Christians called sunbathing a sin and placed it on a par with the other practices of the Hygienic System.

In the latter part of the 18th century when the power of the old dogmatic Christianity was waning, sunbathing was again turned to as a preventive and curative health measure. Waldvogel, of Bohemia, recommended sunbathing in 1775. Le Peyre and Le Comte focused sunlight on "wounds and tumors" in 1776 with excellent results. In 1779 Bertrans published a series of essays "Concerning the Influence of Light on Living Organisms." In the early part of the 19th century Cauvin, Dobereiner, Girard, Harterive, and Bonnet carried out numerous experiments to determine the effects of sunshine. The experiments showed so conclusively that sunbathing is of value in treating disease that these men attempted to build a new system of therapeutics based upon the use of the sunbath.

As important as was the work of these great exponents of sunbathing, it was superceded by that of the father of the modern phase of sunbathing, Arnold Rickli. Though Rickli was not a medical man he understood the importance of sunbathing very well and made a greater practical application of this health measure than did any of his predecessors. In 1855 he opened his famous sanatorium in Weldes Krai on the Adriatic Sea to provide a "Cure Atmospherique." Here he employed sunbathing to a great extent, and the rapid recoveries of health which his patients experienced gave heliotherapy its real origin as a sound basic science. Rickli's sanatorium continued to operate for over half a century and attracted patients from all over the world. The wide experience which Rickli gained during the 52 years of his practice enabled him to write seven books covering all aspects of heliotherapy. These books have been translated into the Spanish, French and Italian languages but as yet there are no English translations.

While Rickli was working in his sanatorium, hygienists in both America and Europe were also using sunbathing in their practice. In Germany Dr. Lahman opened his famous "Sun and Air Cure," an institution devoted exclusively to heliotherapy. In 1872 Biltz, also of Germany, started to employ sunbathing in his sanatorium. The American hygienists kept pace and were led by Sylvester Graham And R.T. Trall, both of whom recommended sunbathing very highly. Associated with Graham and Trall were Dr. George H. Taylor, Dr. Dio Lewis and Dr. James C. Jackson. Dr. Taylor used sunbathing very effectively in treating scrofula; Dr. Lewis employed it in the treatment of dyspepsia, neuralgia and rheumatism; and Dr. Jackson gave hundreds of his patients sunbaths every clear day throughout the summer. As a general rule, the experience of all of the hygienists in their use of sunbathing was so successful that all the questions of doubt as to its place in the Hygienic System was removed. Good results were obtained, not just in a few diseases, but in nearly every ailment for which it was used. It was not always a cure-all in itself but was found to be essential to facilitate the most rapid recovery of most diseases. Some ailments were frequently completely remedied through the use of sunbathing alone.

The greatest living exponent of sunbathing is A. Rollier, M.D., director of the Institute of Heliotherapy at Leysin, Switzerland. Rollier received an excellent medical training and for a time worked with Kocher, the famed surgeon who attempted to remedy tuberculosis of the bones and joints by surgery. This practice was unsuccesful: at least half of the patients who left Kocher had nothing to look forward to but death. Rollier's best friend committed suicide after Kocher had removed his shoulder joint, knee joint, hip joint, finger and foot to stop the tuberculosis from spreading. Finally Rollier's fiancee developed tuberculosis. Having seen the failure of the great Kocher to remedy this disease Rollier had nothing to look forward to except the girl's continued suffering ending perhaps in death.

Disillusioned with everything, Rollier tossed aside a brilliant surgical career, left for the hills of Switzerland and for a time practiced as a doctor among the country folks of that land. But to his surprise they didn't need much help, for they were quite healthy and lived to a ripe old age. They were always telling Rollier that "where the sun is the doctor ain't." Rollier, who became a doctor to tell people how to become well, found himself taking advice from the poorly educated country folk of Switzerland. He passed this advice on to his fiancee and she followed it. After spending as much time as she could in the bright Alpine sunshine she was soon fully recovered. From the day of her recovery, Rollier was a devoted disciple of heliotherapy.

In 1903 Rollier opened his great sanatorium in Leysin, a small city in the mountains of Switzerland. This sanatorium was simply one gigantic solarium associated with complete and modern living quarters for all of the patients. Gradually there came a steady stream of supposedly incurable patients to this place, patients who were weak, scrawny, skinny, tubercular and doomed to die. Rollier was given the scraps of humanity to work with and he turned them into examples of excellent health. Of the thousands upon thousands of patients who underwent Rollier's Sun-Cure most were completely remedied of their afflictions. During one period of time just following World War I, 1,746 of the 2,167 tubercular patients who were under Rollier's care completely recovered health. The only failures were among those who had allowed their tuberculosis to enter its most advanced stages. Rollier's experience stands as a monument to those who for the past century have maintained that sunbathing should form a part of every healing art.

SUNSHINE AND DISEASE

The history of heliotherapy certainly provides ample evidence of its value. We have seen in reviewing this history how effective sunbathing is in remedying certain diseases, chief of which is tuberculosis. But let us look a little further into the matter here and find the relation existing between sunshine and the general course of all disease.

Throughout the earth the growth of plant and animal life is dependent upon the presence of sunshine. We find that life is always most prolific in the tropics where there is an abundance of year around sunshine and where the intensity of the sun's rays is the greatest. In the arctic regions where there is a scarcity of sunshine life is scarce or absent altogether. Then, as we go south and the climate gradually becomes warmer, all kinds of life becomes more prolific; in the equatorial regions it reaches its peak. Also, it is to be noted that the plants and animals are usually more highly developed where the climate is warmer.

The Danish scientist, Thorwald Madsen, found that, just as the best physical development is attained in the tropics so also do the people of the temperate zone attain the best health during the summer months when there is an abundance of sunshine. Madsen based his conclusions upon his studies of a 37 year compilation of Danish medical records. These records are unusually complete because in

Denmark the law requires that every physician report every case of infectious disease which he treats. The statistics provided by Madsen show that disease, particularly infectious disease, occurs most frequently during the season in which the people get the least sunshine. Diphtheria, Bronchitis, broncho-pneumonia and tonsillitis all run up to a peak in the winter months and fall into insignificance during July and August. Taking an average of all disease, February was found to be the month most conducive to the development of disease; September was the best month from the stand point of public health. The conclusion is inescapable. The prevalence of disease corresponds to the amount and intensity of the sunshine. The more sunshine, the less disease; the less sunshine, the more disease.

In the treatment of wounds which do not heal, sunshine is of the greatest importance. In World War I thosands of German soldiers were afflicted with deep wounds which simply would not heal in spite of the most adequate medical attention. Month after month the wounds continued to fester, matter and infect the entire body. It was left to Bernhard of Samden, an old surgeon who gave up the use of the knife for sunbathing, to help these unfortunate soldiers. He took the Fourth German Army Corps first, and before the war was over he was sunning the supposedly incurable wounds of nearly the whole German army. His success was little short of phenomenal. The most severe wounds, which had failed to respond to any type of medial antiseptics or disinfectants, rapidly healed under the influence of sunshine. The infection quickly ceased, and the tissues quickly closed and healed as if by magic. No better demonstration of the superiority of the hygienic care of infected wounds through the use of sunshine could have been given.

There is perhaps no disease which can be as easily prevented by sunbathing as rickets. The cause of rickets is lack of vitamin D, and as sunshine is the best source of this vitamin it is almost a sure preventive of this disease. Among all forms of animal life we find that sunshine is most conducive to normal bone development. In a series of experiments at John Hopkins University it was found that a good supply of sunshine will prevent rickets in rats even though the diet is inadequate. The noted nutritional scientist and writer, Milo Hastings, placed a thousand baby chicks on a diet which, from a nutritional standpoint was almost perfect. He kept these chicks in a closed building so that none of them would be exposed to any sunshine. They fared all right for a few weeks but then the trouble started. They began to sprattle and sprawl and develop the most severe cases of bone deformities; their legs became twisted and bent in the most ridiculous shapes, and one hundred of them died. Then Hastings released the chicks and allowed them to roam about in the sunshine all they wished. There was no further development of rickets. The chicks regained their strength and were able to run about again although of course many of the twisted legs remained deformed.

Humans may not be quite as susceptible to rickets as baby chickens are but they too frequently develop bone deformities, as well as osteomalacia and other bone diseases, when sunshine is lacking. Dr. E. Amsted, an associate of Dr. Rollier, reports remarkable success in treating rickets with sunshine, and another sun-doctor, Riedel, has used sunshine successfully in treating post-osteomalacia fractures of the neck of the femur, which had failed to heal in a year's time. The simple application of sunshine brought about speedy recovery. The fracture healed perfectly with good ossification.

When diseases involving the kidneys exist sunbathing is of special value. Rollier treated several cases of renal disease with sunshine and reports good results. In the most severe cases recovery was not complete but the patients lived much longer than could otherwise have been expected. The patients who started the sun treatments before the disease was too far advanced experienced complete recovery. The explanation generally given for the healing power of sunshine upon the kidneys is that, by warming the skin, an extra supply of blood produces a vascularization which is seven times greater than normal. This concentration of blood, or hyperanemia as it is called technically, lasts for two full hours after the sunbath, and it is primarily responsible for the beneficial effect exerted upon the kidneys. The extra supply of blood undoubtedly speeds the eliminative processes which are necessary for recovery.

The skin particularly is benefited by sunbathing. The well bronzed skin is firm and strong but at the same time it possesses a soft, velvety texture. It is usually free from pimples and blemishes of all kinds. In addition, the sun has a tendency to smooth the skin and remove small wrinkles. It is indeed a prerequisite to greater beauty.

Medical authorities list literally dozens of skin diseases which commonly afflict civilized races. It is well to note that the unclad primitive races are usually free from this whole assortment. Travelers who observed and lived among the early North American Indians reported that they suffered from virtually no skin diseases. This was no doubt due in part to the better diet they employed but the fact that they wore very little clothing and lived much of their time in the open air and sunshine deserves much credit.

The use of sunshine in winter greatly increases the body's resistance to cold. At Rollier's institute the patients are given sunbaths in the winter as well as in the summer. (This is possible in mountain regions because of the greater brilliance of the sun in higher altitudes.) They are even sent out in the snow to play while clad in nothing but a small loin cloth. At first the cold temperatures bother them a little but eventually the body becomes accustomed to the cold and is thrilled at the contact of the fresh, crisp breezes. The bodies of those who have taken sunbaths until their skin is well pigmented appear to be able to produce more heat than would normally be the case. The skin of Rollier's patients generally feels warm even when it is exposed to cold air. Of course all this does not mean that we should take sunbaths when the temperature is well below zero or too low to permit any comfort at all. But it does show the value of sunbathing in winter weather as a means of decreasing the body's sensitivity to cold.

In addition to regulating itself more effectively to cold weather the pigmented skin regulates itself more effectively to the warm summer weather. Rollier himself acknowledges this and claims that pigmentation "acts not only in protecting the skin against the too violent irritation of the ultraviolet rays, but also in regularizing the thermic contribution of the sun." The pigmented skin radiates heat more rapidly and hence in hot weather is cooler than the unpigmented skin.

Sunshine is valuable as a catalytic agent which creates certain changes in the chemistry of the blood, thus increasing the body's vital powers. The amount of calcium and phosphorus in the blood varies in direct proportion to the amount of sunshine which the body is exposed to. The greater the amount of sunshine, the greater the amounts of calcium and phosphorus which are made available for the body. In just one week of daily sunbathing, with each of the sunbaths a few minutes in duration, the phosphorus content of the blood actually doubles. It is considered highly probable that sunshine increases the secretion of certain hormones or ferments which permit the body to use certain chemicals which it otherwise would not be able to use.

All forms of anemia and other blood afflictions are helped by sunbathing. After Quinke and Behring showed that oxygen consumption is greatly increased in the presence of light, hygienists, realizing that oxygen consumption is essential to the production of more hemoglobin, applied the use of sunshine to anemia cases, and with excellent results. The medical practitioners, Drs. E. Amstad and Sahli, have also noted that sunbathing is valuable in these cases. Sahli reports that the hemoglobin content of the blood of children rarely remains at 75-80 during a program of sunbathing but rises to 80-85, often 90, occasionally 100, and in a few cases even 100-105 over 80.The advantage of sunshine for all anemia patients is certainly apparent from this evidence.

Hodgkin's disease, which is associated with progressive anemia and enlargement of one or more groups of the lymph glands,always has been considered incurable by medical methods. The claim is made that "the cause is unknown; the disease is invariably fatal and the duration varies from a few months to several years." Nevertheless, this disease responds very favorably to sunbathing. Dr. Amsted reports that the treatment of two cases of Hodgkin's disease with sunshine resulted in the recovery or great improvement in each instance. The first patient was a young boy whose condition was in an advanced stage. Diagnosis at the Institute of Pathology of Basel and Berne showed that multiple lymphadenoma existed. A program of sunbathing carried out over a little more than a year secured the desired results. The boy gained 22 pounds and was eventually able to take the most strenuous walks in the mountains. Evidence of the multiple lymphadenoma completely disappeared. The other patient was improved considerably but recovery was not complete because the sunbaths were discontinued at an early stage.

Nagelo, in his *Blutkrankheiten und Blutdiagnostik* writes, in reference to the value of sunbathing in Hodgkin's disease, that : "In a certain number of cases I have applied heliotherapeutic treatment, and have found direct insolation of the splenic region of distinct value. I observed suprisingly good results during the particularly sunny summer of 1911; lasting increase in hemoglobin and of red corpuscles, extraordinary improvement in the general health and surprisingly great diminution in the volume of the spleen, which were unaffected by X-Ray treatment." All of these cases show quite clearly that sunshine is important in maintaining and regaining health.

Though sunbathing is of much value when used alone, it is of far more value when used in conjunction with other hygienic measures. The few really large medical institutions which employ sunbathing do so without following a well planned program of nutritional guidance, exercise and fasting. Rollier scrupulously avoids overfeeding, and uses meat very moderately in his institute, but the diet he employs is far from adequate. Hygienic institutions, on the other hand, present a much more scientific and balanced system of caring for the sick. They use sunbathing extensively, but in conjunction with fasting (when necessary), proper diet and exercise. Theirs is the most rational manner of treatment. Sunbathing should be considered an adjunct or part of a general health-building program rather than a therapeutic agent to be used alone in the treatment of certain specific diseases.

SUN AND AIR

Much discussion has centered upon the relative value of sunshine and air in the employment of heliotherapy. Hippocrates seemed to have placed the greatest importance upon sunshine but he also recognized the role played by air, as is indicated by his statement, "Running in clothes has the same property, but is heats too much, renders the body too humid, and gives less colour, because the body is not cleansed by the air that strikes it but exercises while remaining in the same air." Benjamin Franklin called the air-bath a "*bracing or tonic bath*," and according to his letters to M. Dubourg he employed this bath in his own life almost every morning. Rikli claimed that "light takes precedence over every other natural agent, and is the greatest essential where organic life exists," but he also understood the importance of air, and collectively referred to the combination of sun and air bathing as the *atmospheric cure*. He declared that the "purpose of the air treatment is the strengthening of the skin by restoring its natural functions and vitality and elasticity it has absorbed from its primitive state when directly in contact with the air." Dr. Trall and Sylvester Graham attributed the value of heliotherapy to both the sun and air.

The more recent exponents of heliotherapy have furnished more scientific data, though their conclusions are similar to those of their predecessors. Most important has been the discovery that the circulation of air around the nude body may increase metabolism as much as fifty per cent in ten minutes. Though such a large increase is only temporary, it is nevertheless true that, as was shown by Dr. Leonard Hill, "a high cooling power not only increases the heat production of the body during exposure, but raises the *basal* metabolism to a higher level. The fire of life is made to burn faster." Sir Henry Gauvin came to a similar conclusion and attributed part of the benefit of sunbathing to the increased metabolism resulting from exposure to air. Halstead places more importance upon the air than the sun in cases of glandular and bone tuberculosis. S. Bangs likewise gives priority to the air-bath, whereas Prof. Dollinger of Budapest claims that it is impossible to decide which is most important. Generally speaking, however, most authorities place far more value upon the ultra-violet rays of the sun than upon the air. They recognize the fact that the air increases both temporary metabolism and the basal metabolism, and that it permits complete respiration of the skin, thus preventing the continual soaking and resoaking of the skin with perspiration. However, this, they claim, is less important than the chemical changes which occur when the body is exposed to sunshine.

ARTIFICIAL SUNLIGHT VERSUS NATURAL SUNLIGHT

After natural sunshine was proven to be valuable as a health measure, attempts were made to break up the radiant energy of sunlight into its constituent parts and concentrate these in some form to be used in place of natural sunshine or when natural sunshine was not available. A Danish scientist, Niels Finsen, was the first to work along these lines. He made the first application ot artiticial sunlight in the Electric Light Works of Copenhagen in 1895. The patient in this case was one of the engineers who was afflicted with the supposedly incurable lupus (skin) tuberculosis. Finsen exposed the afflicted area of the patient's face to the light from the positive carbon of a 25 ampere direct current lamp, and to the surprise of everyone, in cluding perhaps Finsen himself, the tubercular ulcer healed completely after a few months of treatment.

This successful experiment of Finsen's gained so much attention that two wealthy manufacturers, Jorgensen and Hagemann, decided to build a large institute in which more experiments could be carried out to determine the therapeutic efficiency of artificial sunshine. Finsen himself was given charge of the real medical and therapeutic work in the institute. An enormous carbon arc lamp operating on a direct current was used to supply the ultra-violet rays, which form the basis of the healing qualities of sunshine. In addition to the carbon arc lamp, Finsen used a quartz lens to concentrate the greatest possible amount of light upon the affected areas of the patient's skin. Lupus tuberculosis was the only disease which was treated in the institute. As for results, well, even the most conservative medical authorities had to commend Finsen on his good work. An average of 41 out of every 100 patients who were treated by Finsen completely recovered. Today a corresponding rate of recovery in the disease, when treated hygienically, would not be considered so good, but in Finsen's time, when everyone just took it for granted that all forms of lupus tuberculosis were incurable, the use of artificial sunshine as a therapeutic agent was indeed sensational.

After Finsen died in 1904, another Danish scientist, Axel Reyn, was placed in charge of the institute. At first he didn't get any better results than did Finsen. But it was then that he decided to do a little experimenting himself. Instead of directing the light rays upon only the tubercular ulcers of the patients, Reyn directed the rays over their whole body. He gave them general sunbaths instead of just bathing the diseased portions of the body. The results obtained by Reyn in giving these treatments were much better than those of Finsen. In fact, the majority of patients whom Finsen could not help recovered when the entire body was provided with the benefit of the light.

Ove Strandberg followed Reyn as the chief exponent of artificial sunbathing. But Strandberg went further than did Reyn. He used the sun lamp not only in cases of lupus tuberculosis but also in the more deep-seated and severe forms such as those which afflict the throat and lungs. And indeed Strandberg was highly successful. While working on the staff of a large sanatorium which specialized in treating lung and throat tuberculosis, he showed that these diseases generally respond favorably to artificial sunshine. Of the 65 victims of throat tuberculosis whom Strandberg treated with rest, improved diet and the carbon arc sun lamp, only four died, three recovered partially and the other 58 completely recovered.

These facts show quite clearly that artificial sunlight has definite value, but they do not indicate that it is either equal or superior to natural sunlight. Whereas the natural sunshine is of proven value, the use of the carbon arc lamp has been more restricted. We know that it is of great value in tuberculosis, loss of hair and rickets, but our knowledge doesn't go much further than that.

Both plants and animals can live under the influence of artificial sunlight alone, but they do not live well. The plants occasionally grow more rapidly under the sun lamp, but they lack the rugged constitution and good structural development of other plants. Animal life invariably thrives better when given natural sunshine. The sun lamp, at best, appears to be a relatively poor substitute for natural sunshine.

As a general rule artificial sunlight fails to induce any appreciable pigmentation of the skin in spite of the most extensive and prolonged use. It produces sunburn all right, but the reddish tinge does not turn into a deep tan color, as is the case when the body is exposed to natural sunshine. This is due to defects in the carbon arc light itself rather than defects of the specific lamps.

Perhaps the chief advantage of natural sunshine is the fact that it is balanced properly. With the mild ultra-violet rays it supplies the infra-red rays. The carbon arc light contains only the short ultra-violet ray which are highly irritating, and it is totally lacking in the infra-red rays. The shortest ultra-violet rays of the sun are 2,900 A.U.; those of the quartz lamp are 1,500 to 1,800 A.U. Fortunately for us the short irritating rays of natural sunshine are filtered out by the atmosphere. Hence, real sunshine is not destructive to animal tissue and it is not irritating unless the period of exposure is too long before pigmentation has developed.

Artificial sunshine is no doubt much better than no sunshine at all. If infants cannot be given regular sunbaths they may be given sun lamp treatments to good advantage, but expert guidance is required. Also, in certain diseases such as tuberculosis and loss of hair the sun lamp might well be employed if there is no possibility of exposing the body to natural sunshine. However, you should always remember that, as far as is known today, natural sunshine possesses no equal. It is to be used in preference to the imitations of sunlight, which science has developed, for these are inferior in certain respects. Use them if need be, but do not feel that they completely replace natural sunshine.

TAKING THE SUNBATH

Heliotherapy is not a toy to be played with by the inexperienced and the uninformed. It is not so complicated that it requires supervision, but it most certainly should not be employed by the layman before he acquires a thorough knowledge of the technique of heliotherapy. Too many people have been unnecessarily harmed by indiscriminate sunbathing. Severe sunburn is the common aftermath of the misuse of sunlight.

You can take sunbaths every day with complete safety if you obey a few simple rules. The first and most important of these calls for the principle of progression until the skin is well pigmented. This principle is the formation of all sunbathing technique. In all hygienic institutions the sunbaths are started very gradually. Rollier gives his patients a few weeks to get used to the fresh outdoor air of the alpine regions before he permits the first sunbaths. Then, on the first day only the feet and head are exposed; the lower part of the legs is exposed on the second day; the thighs are exposed on the third day; the abdomen is uncovered on the fourth day, and on the fifth day the entire body is exposed to the sun's rays. The first day's exposure of each of the respective body parts is increased five minutes until the body is well tanned.

For patients who are suffering from tuberculosis, often in its advanced stage, this procedure may be desirable, but for the average person it involves a certain amount of unnecessary caution. The best plan is to start with a five-minute exposure of the entire body and increase the duration of this by five minutes on each day. This will enable you to take sunbaths of an hour's duration within just a few weeks. If you have blond or red hair, a fair complexion and blue eyes, a five-minute increase in the time of each sunbath may be too much for you, and if you are a brunette you probably will be able to progress more rapidly. The daily five-minute progression plan is given as an average for all types of people. You may deviate from it slightly, depending on the characters of your complexion. The important thing is to progress just fast enough to prevent all sunburn and permit the most rapid pigmentation of the skin. Once your skin is well pigmented you may forget the progression plan. Then you will be able to spend hours in the sun each day without the danger of sunburn.

Many have claimed that certain climates are favored for the successful employment of heliotherapy. The tropics and the region of the Alps in Switzerland are said to be the finest for those who wish to gain the greatest benefit from the sun. It is true that certain climates provide more sunshine than do others. The tropical regions offer the opportunity for complete year-round sunbathing. There are more ultra-violet rays in the sunshine of the mountain regions, and in the higher altitudes above the clouds there are naturally more sunny days. But this does not mean that everyone must go to the tropics or to the mountains to make an excellent application of heliotherapy. Throughout the temperate zone, whether on the seashore, in the valleys or on the plains, there are several months each year when the temperature is high enough to permit sunbaths. Even during the warmer days of the spring and fall, sunbathing can be practical. Furthermore, it is possible to build solariums with a special type of glass which permits the entry of the sun's ultra-violet rays. Solariums of this kind make sunbathing possible even in the cold winter of Alaska and Canada. If you wish to make a private solarium for winter use, the necessary glass can be obtained from any good dealer of general building supplies. Of course indoor sunbathing during the winter may not be the equal of outdoor sunbaths of the summer. Much of the fresh air is lacking, and though the special glass permits the entry of the ultra-violet rays, it may filter out some of the other healing rays of sunshine. Be this as it may, in the winter the use of the glass solarium is better than no sunbathing at all. The solarium is also superior to the sun lamps which are frequently employed when the temperature does not permit outdoor sunbathing.

A good deal of unnecessary bother is made about taking sunbaths before, during or immediately after meals. There are those who recommend waiting at least three hours after a meal before taking a sunbath. The sun is said to draw the blood to the surface of the skin when a certain amount of extra blood should be directed to the digestive organs to enable them to care for the food in an efficient manner. It is quite true that an extra supply of blood is needed by the digestive organs after a heavy meal. But the sunbath does not interfere to any appreciable extent with this flow of blood. Thousands of people have taken sunbaths before, during and immediately after meals, and there are no authentic records of anyone suffering therefrom. Not even the slightest traces of digestive discomfort are seen when sunbaths are taken after meals. So don't concern yourself about the relation of meals to the time you should take your sunbaths. You may even make your mealtime your sunbathing time if you wish.

And then there comes the question of the relation of the hair to the sunbath. About 50 per cent of all sunbathers cover their hair with a towel to protect it from the sun. However, not one of them can give a good reason for doing this. Many probably cover their hair because doing so just seems to be the custom among sunbathers. Others cover it because they have heard the rumor or superstition that the sunshine harms the hair. In reality, the sun is beneficial to both the hair and scalp. Quite apart from causing baldness, sunshine helps to prevent this disease and in some cases it even increases the growth of hair.

Another fad which seems to be very common among sunbathers is the use of various forms of oil which are rubbed over the skin. Olive oil and special commercial anti-sunburn oils are the most frequently used. For those who must make long exposures during the early stages of sunbathing, before the skin is well-pigmented, the use of some form of oil on the skin may be desirable to prevent sunburn or alleviate it to some extent. However, when used on the pigmented skin, the oil serves no useful purpose and probably does a certain amount of harm by filtering out some of the ultra-violet rays of the sun. Further, the oil slows the process of pigmentation. Following the principle of progression in the initial stages of sunbathing removes entirely the need tor oil and renders the use of the same as impractical and undesirable.

A certain amount of controversy has arisen over the question of whether of not sunbathing can be done to excess after the skin has been tanned sufficiently to prevent burning. One school of thought places no limit upon the amount of sunshine that can be taken with benefit, and uses as its dictum--the greater the amount of sunshine, the better the state of health. Others claim that sunshine, when taken in very great amounts, tends to be depressing and weakening. Anyone who has lain hour after hour under the intense rays of the midday sun will testify that sunshine can be depressing as well as stimulating. Too much sun does sap the energy and temporarily weakens the body. Anything can be taken to excess, and sunshine is no exception. Just as fasting, natural foods and exercise must be taken within certain limits, so the use of sunshine must also be limited. The best guide to use in taking sunbaths is the state of your energy reserve. All of the sunshine you can absorb up to the point of noticeable weakness is good. When you begin to feel a definite lack of energy, that is the time to stop. To lie in the sun until you are all worn out may not harm you permanently, but it is all very unnecessary. Sunbathing, when carried out within the limits of the body's energy reserve, is a pleasure. When it is overdone, it is the cause of a state of uncomfortable temporary weakness. Comfort alone should call for moderation.

In the cooler hours of the morning and late afternoon sunbathing can hardly be taken to excess, but under the intensive heat of midday greater care must be observed. The best advice is to follow the example set by most undomesticated animals, who remain in the shade when the sun reaches its greatest intensity but bask hour after hour in the sunshine of the early morning and late afternoon. Rollier also recommends taking sunbaths during the cooler hours of the day. During the summer months he restricts sunbathing to the hours between 6 a.m. and 9 a.m. Rollier seems to have gone a bit too far in his preference for the early morning sunshine; nevertheless, this is better than going to the opposite extreme and restricting all sunbathing to the middle of the day. You can get your sunshine whenever you please, but always give preference to early morning and late afternoon. Then, when you do go out at other periods, practice moderation and finish the sunbath before the heat becomes too depressing.

Years ago it was often quite a problem to find a good place in which to take a sunbath. Beaches and secluded country areas were available, but that was about all. However, with the gradual decline of prudery and the greater importance attached to sunbathing in recent years, new facilities for sunbathing have become available. The Y.M.C.A. and other athletic clubs of many cities have turned their roofs into solariums. The "L" Street bathhouse in Boston is one of the largest public solariums in the world. It has a capacity of several thousand and is indicative of the trend toward the establishment of municipal solariums in all of the large cities. For those who do not care for the solariums there remain the beaches, outdoor swimming pools, public parks, nudist parks, open verandas, apartment house roofs and flat roofs which can be used for sunbathing purposes. You really shouldn't have any trouble finding a place to take a sunbath. Perhaps the most convenient facilities are not always available, but with a little ingenuity the problem can usually be solved.

Not only do many opportunities for sunbathing exist today, but the situation is improving. The day will no doubt come when every city will have its solarium. Perhaps even public schools will eventually establish solariums for the benefit of their students.

It should be apparent that taking a sunbath is really a very simple matter. It doesn't call for any special climates, supervision or rituals. No matter where you live you can enjoy the advantages of sunshine with little or no inconvenience. And you don't have to worry about the danger of sunbathing either. There isn't any if you obey the one all-important principle of progression. Just start taking your sunbaths gradually and work up to the point where you can spend all of the time in the sun that you wish (within the limits of your energy reserve of course). This is a fundamental thing to remember. By progressing gradually you will gain the fullest advantages of sunbathing and at the same time eliminate the possibility of sunburn, with its attendant danger and discomfort.

Sunbathing should hold an important place in your program of hygienic living. It is not as valuable as the fruitarian diet as a means of maintaining health and it most certainly is not equal to fasting as a means of regaining health. However, it is a good adjunct to these other hygienic measures. It is one of the "big four" agents of the Hygienic System. For the finest state of health you should make the fullest application of it. A much higher level of health than would otherwise be the case will be your reward.

CHAPTER 14

Building Strength and Health Through Exercise

The Role of Exercise In Your Program of Healthful Living

For real buoyant health, the kind that provides the greatest strength and energy, you must exercise. This is a law which no one can ignore without paying the consequences. We have those in our midst who claim that athletes die young, and that the "huge, ugly muscles" of the professional strong man are not conducive to a long life. But the truth is that athletes do not necessarily die young and that the muscles of the "strong man" are not ugly. Well-developed muscles add to the appearance of anyone.

Exercise should not be considered a specific therapeutic agent to be used in remedying all diseases, but a health-building agent. When you exercise you stimulate the functional activities throughout the body. The flow of nutritive material to the cells is increased, the joints of the body are made more agile, the circulation of the blood and other fluids is stimulated, the body is given a much-needed additional supply of oxygen because of the enforced deep breathing, and the vital organs are stimulated into greater activity. Through exercise you improve the condition of your entire body.

THE GREEK IDEAL

We should look back and admire the ancient Greeks for the use they made of exercise. Throughout the Grecian lands were many gymnasiums in which the people could engage in gymnastics, swimming and other physical activities. The Greeks respected the athlete above everyone else. One could be poverty stricken one day but could rise to fame, riches and honor on the following day if he performed some great athletic feat. Every four years the Greeks held their Olympic games, and these were the occasion for great festivities and amusement. The Greeks regarded them as the most important events in all Greece and would give up almost anything to participate in them or to attend them.

In addition, physical culture was the chief subject taught in the Grecian schools. In fact, these schools devoted more time to teaching physical culture than to all other subjects combined. The aim of the Greek was to attain perfection of mind and body. He felt that he could best do this by devoting attention to physical exercise, and indeed he was quite successful. The average Greek was far better developed than is the typical civilized man of today. The old Greek works of sculpture and art show quite clearly his superior development. The greater part of the art of Greece was concerned with the glorification of the human body, and the poets of ancient Greece never tired of singing of the beauty of their gods and goddesses. They fairly worshipped the beauty which results from giving attention to physical culture.

It would be well if there were a rebirth here in America of the Grecian attitude toward exercise. We need a new appreciation of the value of physical culture and body perfection. It should be the aim of every American to build his body, through the help of exercise, to a high level of development and beauty. We should have gymnasiums in every city, making it convenient to engage in exercise. We should make physical culture a subject in all schools. In short, we should make better body development a foundation of our life.

THE FALL OF PHYSICAL CULTURE

The so-called Golden Age of Greece disappeared with the advent of Christianity. In 394 A.D. the emperor ordered all gymnasiums in Greece closed. The Christians, with their prudish viewpoint toward the human body, could not tolerate physical culture. So for hundreds of years--in fact, for over a thousand years--physical culture was given almost no attention in the educational systems of the western world. People failed to place any appreciable importance upon the body exercise.

In the sixteenth century there occured in Germany and Sweden a rebirth of physical culture. But this was chiefly in consideration of military needs. The Germans, and to a lesser extent, the Swedes,regarded exercise as necessary for the development of strong soldiers. Eventually the German and Swedish system of exercise (chiefly gymnastic training) was imported to America and taught in some schools. But the conventional schools of healing, including medicine, never did give it due attention. Dr. Trall's Hydropathic College of New York was the only medical school which gave an extensive course in physical culture. And matters still stand about the same way today. The school of medicine still doesn't consider physical exercise to be of any great importance. Medical schools still do not teach their students physical culture, and probably not one percent of the physicians employ exercise in their practice. Only the Hygienic System has given exercise a prominent position.

EXERCISE AND DISEASE

Though exercise is chiefly of value in health maintenance rather than as a health-restoring measure, there are some diseases which call for much exercise if recovery is to be expected. Chief of these are hernia, spinal deformities, infantile paralysis and varicose veins. It is practically impossible to correct any spinal curvature without giving exercise due attention over an extended period of time. The only natural remedy of hernia consist chiefly of exercise. Not all hernias may be corrected by exercise, but many can. Victims of the various forms of paralysis must exercise if they are to regain control of the affected areas. Of course, exercise alone will not remedy paralysis but it is the most important hygienic measure to be employed. As for varicose veins, they have frequently been remedied through exercise alone, although the most rapid results are obtained if a fast precedes the use of exercise. Running is the most effective exercise in cases of varicose veins.

SOME FORMS OF EXERCISE

The use of athletics is desirable in any exercise program. Football, basketball, baseball, tennis, swimming, track and handball all possess value in developing the various parts of the body. But is should not be assumed that each is a complete exercise in itself. Athletes who concentrate almost entirely upon one type of sport do not acquire a good all-around development. Some parts of the body are over-developed at the expense of others. A varied athletic program, one which includes the use of several different sports, is best. Perhaps the sport which places into action more parts and muscles of the body than any other is swimming. Gymnastic activities are also good as all-around body-developers.

There are many who engage in considerable physical labor and consequently believe that they do not need any extra exercise. But there are very few, if any, kinds of work which form complete exercise programs. Work is in no sense capable of developing the body to a great extent. Most forms of work call for the use of only a few body parts most of the time, and even these are not exercised strenuously. Real, worthwhile exercise consists of more than one body movement. Many people in their daily activities are continually moving about. But their muscles remain poorly developed. The best exercise calls for real exertion. If the exercise you do calls for no particularly great effort it is of little value. And as most forms of physical work do not call for any strenuous activities they are inadequate. They do not supply you with the exercise you need in order to possess the best state of health.

A great deal of misinformation has been given in recent years about the value of walking as an exercise. Walking is called the best of exercises, one which will do much to improve the general condition of the body. But from the standpoint of science, walking is of little value. It is a good exercise for lazy people and that is about all. Walking really is equivalent to most forms of work; it allows simple, almost effortless body movements. Instead of attempting to walk your way to health you should run your way to health. Running is not a complete exercise but it can do wonders in building strong, well-developed legs. It also induces deep-breathing and is a good exercise for the lungs.

The fact that deep breathing is desirable doesn't mean that you should engage in special forms of this exercise. In recent years much has been written about special breathing exercises which involve inhaling a certain number of breaths through the nose and exhaling them throught the mouth, and vice-versa. These exercises also call for holding the breath at periodic intervals and attempting to drive the inhaled air to various parts of the body by getting all tangled up in very awkward positions. Many such exercises had their origin in India and were first used as a means of acquiring special mental powers. They were a part of the training of the Indian exponents of the "Yogi" philosophy. From a purely hygienic standpoint these special breathing exercises, which call for forced deep breathing in the absence of regular physical exercise, are of little or no value. Deep breathing is a fine thing when the body calls for it, but it is unnecessary to make a conscious effort to breathe deeply at all hours of the day. When there is need for more air the body calls for it and you naturally breathe deeply. In the absence of this demand the use of forced deep breathing is highly questionable to say the least. It probably does not harm the body, but neither does it help any. It is best to leave the array of breathing exercises to the Yogi philosophers from whom they came. You can give your lungs all the exercise they need and supply the body with all the oxygen it needs simply by indulging in some good physical exercise from time to time.

DON'T LET AGE STOP YOU

There are no age groups of people who should not exercise. Physical activity will help you whether you are 10 years old or 80 years old. The newest medical philosophy advises one to participate in no appreciable amount of exercise after 40. It is quite true that many people, after living for 40 years upon refined, devitalized foods, are too weak to indulge in much exercise. Perhaps it is this which has prompted medical authorities to restrict exercises to young people. However, chronological age and physiological age don't always go hand in hand. There are some people who, at the age of 60, are as young from a physiological standpoint as those who have lived only 30 years. And there is no reason why such people should not exercise. People who live upon the conventional diet age prematurely; they are too weak to exercise at an age when they should be in their top physical condition. If you use only natural foods you can exercise at regular intervals throughout your life. The Hunza of India play polo at the age of 80, and you can be active at that age too if you follow a proper mode of living. Other primitives are also capable of engaging in strenuous exercise in their advanced years.

THE HEART AND EXERCISE

It has often been claimed that the heart is damaged during strenuous exercise but there is no evidence to indicate that this is true. The heart is really benefited by both light and heavy exercise. The so-called athletic heart is commonly spoken of as a diseased heart and is generally found among athletes. However, an athletic heart is simply an enlarged heart and is in no sense diseased or damaged. It is only natural that the heart muscle should increase in size as it is exercised, just as any other muscle does. And this increase in size is desirable. It indicates a better developed and stronger heart. There are some cases in which an enlargement of the heart is associated with disease but this is never due to exercise. A pathological enlargement of the heart muscle is not to be confused with the normal enlargement of the heart muscle which has been exercised at periodic intervals. Tests of athletes have shown that these people do not suffer from real heart disease any more often than do others. In fact, their hearts, are probably in better than average condition.

WEIGHT-LIFTING

One of the best forms of exercise for developing great strength and good all-around body development is weight-lifting. It not only develops and strengthens the arms, but also develops strong shoulders, a strong back and strong legs. When a great many varied exercises with dumbbells and barbells are employed the body gets the most benefits. Under such conditions more muscles are used and a more uniform body development follows. For real strength, weight lifters are unsurpassed. The professional and strong men are usually weight lifters. It is likewise true that those who possess the most beautiful and well-developed bodies are weight lifters.

Do not make the mistake of attempting to gain great strength by lifting light weights. It is true that you must start your program with light weights, but these are only used temporarily as a means of gradually accustoming your body to weight-lifting. You can lift a 10 lb. weight a thousand times a day, but doing so will not enable you to lift 100 lb. weights. You gain the ability to lift heavy weights only by lifting them. Lifting a light weight a hundred times a day will give you less strength than lifting a heavy weight ten times a day.

Always remember to keep the back straight when lifting heavy weights. You will be able to lift only a fraction as much when the spine is curved as when it is straight. Every experienced porter knows that, when the spine is curved, it is almost impossible to move a 1000 lb. case. He stands at arms length from the case, rests his hands against some part of it, and with his back perfectly straight does the pushing, thus gaining the full power to the legs and the back. The weight lifter should apply the same principle to his work.

HOW AND WHEN TO EXERCISE

The all-important rule to remember in exercising is to increase the various movements in progression. The first exercises should be relatively mild and short of duration. Each successive day you may use heavier exercises over a longer period of time. Starting to exercise perhaps five to ten minutes per day with light, simple movements, you may gradually, after a period of weeks or months, reach the point where you can exercise a half-hour to an hour a day. Of course no set rules can be laid down as to the rate of progression. This must always depend upon the individual. Some, who have always possessed reasonably strong bodies, can progress very rapidly. For others, particularly those who possess a history of weakness and disease, several months may be required before the heaviest forms of exercise, such as weight-lifting and gymnastics, should be indulged in for any appreciable length of time.

It is the best policy to take the more strenuous exercises only about five or six days a week. Exercising every day without exception probably does no harm but it will not produce rapid results. The real growth of muscles takes place between the exercise periods while the muscles are resting. Resting the muscles is as important as exercising them. The whole essence of body building consists of alternate exercise and rest. If one does only light exercise for short periods no special rest days are desirable or necessary. But for the greatest strength you will want to do at least some heavy exercise, and under such conditions there will have to be more rest periods. Many do the heavy exercises about three or four times a week and on the other days they do just light exercises. This is a good plan and does not necessitate any special rest days. Alternating each day with light exercise and heavy exercise also provides the muscles with sufficient rest.

It is generally desirable, especially in cases of greatly impaired health, to precede a program of exercise with a fast. This is not essential but it will enable you to progress with your exercises more rapidly. By giving your body a thorough cleansing through fasting you will be in a better position to exercise. You will suffer less readily from fatigue and will be able to do the movements more easily.

Make your exercise program as varied as possible. During the summer months make the fullest use of swimming, tennis and other outdoors sports. In winter, ice skating is a popular sport, along with skiing. Engage in some form of exercise in your own home at periodic intervals. There are many books and physical culture magazines which describe the hundreds of such exercises, and by reading these you can learn numerous movements which are of much value. Then, if you desire great strength you can get some barbells or dumbbells for home use. Also, in nearly every large city there is at least one gymnasium. These are generally equipped with numerous forms of apparatus which permit many good forms of exercise.

Above all, do not consider exercise to be some sort of difficult chore which you must indulge in to have good health. Look forward to your periods of exercise with delight, as the child looks forward to his periods of play. After all, exercise is nothing but play. For the really healthy person it is something to look forward to. A healthy youthful body craves exercise; it craves activity. Notice any child and you'll see that it is continually running, moving about and playing. It is only in a condition of physiological old age and disease that people shun exercise. Build health first; eliminate toxemia and remineralize your body with natural uncooked foods. Then you will be enthusiastic about exercise. You won't think about whether or not you should do it. You will simply take it as a matter of course as you would take any other form of entertainment or play.

CHAPTER 15

Some Common Ailments

Instructions for Removing Specific Types of Disease and Restoring the Body To A Condition of Health

Properly speaking, there is only one disease. This is an attempt of the body to eliminate toxins, normalize chemistry, heal tissues, adapt itself to unfavorable conditions and do whatever else can be done to improve or preserve the functioning power of its cells, tissues and organs. The 20,000 diseases in the medical vocabulary are but manifestations of this one disease. Each is named according to the locality in which the healing crisis takes place and according to the character of the symptoms which are associated with it. In keeping with the nomenclature of the physician we speak of specific diseases, but at the same time we recognize that each is only a manifestation of the healing and adaptive action which is essentially the same in all parts of the body.

The unity of the thousand of diseases quite obviously calls for the unity of treatment. Specific cures for specific diseases belong to medical "science" and form no part of the Hygienic System. We have one over-all method for caring for the sick. This plan is based upon a mode of living which in turn is based upon the needs and limitations of the human body in times of illness. As these vary to some slight extent with each type of illness, a brief discussion of some of the most common diseases, along with instructions as to how each may be permanently and completely remedied, is provided here.

You must bear in mind that the forms of treatment offered for each of the diseases herein described must possess many similarities. In most conditions of ill health, fasting, the fruitarian diet and a planned program of exercise and nude sunbathing are the basic health measures employed. But the application of these varies a little with each disease. Some ailments call for long fasts, some for short fasts; others require a change in diet. Many need the greatest possible application of exercise and sunshine. With each disease the extent to which these health measures are employed is a little different.

Also provided here is a description of the forms of treatment which you should not employ in attempting to get well. As a general rule, most medical procedures and "cures" do not restore health at all; they have a tendency to impair function still further. Hence you must understand each of the medical methods. You must realize that they form no part of the scientific, hygienic care of the sick patient.

CONSTIPATION

The fact that constipation is the most common of all existing diseases, as well as the father of many others, gives it first consideration. Constipation simply means the clogging of the small and large intestine. It is associated with abnormally slow movement of foods through the intestinal tract, and infrequent evacuations. Under normal conditions, when the body is in perfect functioning order and the diet is ideal, food is eliminated from the large bowel 10 to 24 hours after it is eaten. The feces are soft, porous and free from all offensive odor. The feces of the constipated person are frequently hard, dry and offensive. The food usually remains in the intestinal tract for three to four days before being eliminated. During this time much putrefaction and fermentation takes place. Many toxins are generated and absorbed by the blood stream, and the hard-packed food residue presses against the tiny nerve endings in the colon, often producing headaches, fatigue, nausea and a general feeling of discomfort. Constipation often leads to many other diseases, chief of which is colitis. As long as you are constipated you cannot expect good general health. Perfect elimination is the first and most important prerequisite of a strong healthy body.

The three most important causes of constipation are wrong foods, lack of abdominal exercise and failure to adopt the natural "squat" position when evacuating the bowels. Of these, the use of wrong foods deserves the most attention. The conventional diet is formed largely of pasty foods which clog up the intestinal tract. Good wallpaper paste can be made from white flour and water. Foods which are composed largely of these materials act as a paste in the intestine also. They are never eliminated before much fermentation has set in, and frequently they pack up against the intestinal walls where they remain to decay and encourage the growth of million of bacteria and hundreds of pin worms. Meat, milk, cheese and cooked vegetables also have a tendency to produce constipation. They seldom move through the body in from 10 to 24 hours unless they are eaten with a preponderance of raw fruits and vegetables.

Surrounding the 30 feet of intestinal tubing are many muscles which aid in moving the food through the digestive tract. If you never exercise these muscles they are going to be weak; there is no escaping this. Activity builds strength and increases functioning power. Non-use of muscles produces weakness, and if carried to the extreme, results in atrophy. Races such as the Polynesians of the South Sea Islands have good elimination largely because they indulge in innumerable dances which twist and turn the muscles of the torso. Abdominal exercise of one kind or another is essential if elimination is not to be impaired.

Most of the primitive races do not have toilets. They simply squat in a natural manner when having a bowel movement. This position permits the sphincter muscle at the end of the rectum to vigorously throw out all the fecal matter. When you use the ordinary modern toilet seat the sphincter muscle is not in a position to induce complete and thorough evacuation of the bowel. The result is food stagnation in the large intestine with decay and pressure on the sensitive nerve endings.

The remedies advertised for constipation are numerous. Laxatives composed of drugs or herbs are most commonly used. These act as irritants to the lining of the intestinal tract. To protect itself from these irritants the lining "waters" just as the eye waters when it is irritated by a foreign agent. The secretion of the additional amount of liquids creates soft stools and hence induces rapid elimination. Temporarily, the results appear to be good but in the long run they are not so. Both the drug laxatives and the so-called "natural" herb laxatives irritate the intestinal lining to such an extent that, if used habitually, they frequently produce colitis and ulcers. They also overwork the already weakened intestinal muscles. It is like whipping a tired horse to run a little faster, only to become so tired that it will later move all the slower. Likewise, the temporary stimulation that laxatives produce is followed by greater weakness than ever.

Mineral oil will induce bowel evacuation but its use is not to be recommended. Vitamin A, D, and K readily dissolve in this oil and are removed with the fecal matter. Night blindness, a symptom of vitamin A deficiency, is frequently seen in those who use mineral oil habitually. There is some evidence to indicate that the oil not only washes away the vitamins found in food but also absorbs some of the cells of the intestinal wall.

E.V. McCollum and J. Ernestine Becker of John Hopkins University, Victor Heiser and Gaylord Hauser all speak favorably of the isotonic salt solution as an aid to faulty elimination. No doubt this is a better method of getting a bowel movement than resorting to drug laxatives but its use certainly is far from harmless. The solution contains about two level teaspoons of salt to one quart of water and is taken in the morning before breakfast. The irritating effects of the salt upon the intestinal lining are bad enough, but in those cases in which the salt is absorbed by the body instead of passing directly through the digestive tract the tissues become waterlogged and the victim undergoes no small amount of discomfort. The salt solution is, at best, a very poor remedy for constipation, and one which often produces more harm than benefit. It never removes the cause of constipation but only treats the symptoms, thus providing only temporary results.

Colonic irrigations and enemas, so frequently employed by chiropractors, naturopaths and other drugless physicians, are not only useless but are definitely harmful.

They weaken the colon walls by dilating this with water, and only add to the original causes. They offer only temporary relief and must be classed with the other forms of palliation and symptom-treating.

The only effective means of completely remedying constipation once and for all, no matter how serious or deep-seated it may be, is by removing the causes of the ailment. The first requirement is a fast which will give the intestinal muscles a chance to rest and thus regain their normal strength. Following the fast there should be a strictly natural diet which provides plenty of roughage and cellulose in the form of raw fruits and vegetables. Refined white flour products must be avoided under all conditions. Then adopt a program of exercising which stresses the activity of the abdominal muscles. The squat position during bowel evacuation must be employed at all times. The best plan is to place a small box directly in front of the toilet seat. This should be a little lower than the seat itself. By placing your feet upon this box you will have a close approach to the perfect squat position. If no box is available, bend over as far as you can so as to assume as close a resemblance to a squat position as is possible. If you give adequate attention to these four factors—fasting, the use of uncooked foods, abdominal exercise and the proper position for bowel evacuation—you will remedy the constipation in a very short time. And remember, this is the only method of getting results. Drugs, pills, herbs, salt solutions, enemas, etc., are of little or no value. Only the Hygienic System offers permanent recovery.

COLITIS

The colon is lined with a delicate membranous tissue. Under normal conditions—when non-irritating foods are eaten, when the body is supplied with all of the elements it needs and it is not congested with toxins—this lining remains in good condition and gives no trouble. However, the modern diet, containing as it does, many irritating condiments, devitalized foods and toxic materials, frequently gives rise to inflammation of the lining, a condition known as colitis. The contact of certain rather rough, course or acid foods with the inflamed area often produces much pain and physical discomfort. Associated with colitis there are frequently alternating constipation and diarrhea, the passage of mucous shred streaked with blood in stools, gas bloating, loss of apetite, nausea, foul breath, nervous irritability and general weakness. If the colitis is not remedied an ulcerous sore may develop in the field of inflammation.

Physicians place all colitis patients on a bland diet of soft, mushy foods which do not produce pain when they touch the inflamed area. These generally include milk, cream, poached eggs, white bread, refined cereals and over-cooked pureed vegetables. This diet does not remedy colitis. At the most it temporarily prevents some of the pain which ususally attends the disease. If the bland diet is continued very long it impairs the general health in a number of ways. Lacking as it does a good supply of vitamins and minerals, a further spread in the inflamed area is often induced. Constipation becomes more severe than ever and the patient undergoes much suffering without hope of recovery.

There is one remedy and only one remedy for colitis. This is fasting. Nothing else, not even an elimination diet, can produce complete recovery. The fasts in these cases must necessarily be of long duration. Even the relatively mild cases require three or four weeks of fasting; in the most severe cases at least six weeks are often required before the inflamation disappears and the tissues are healed. The fast should be accompanied by a period of complete physical and mental rest. After the fast, sunbaths should be taken regularly and exercises which stress the abdominal region should be used. The diet should not be a bland diet, but rather should consist of a wide variety of fresh, uncooked foods. It should be employed permanently if a recurrence of the disease is to be avoided.

ULCERS

An ulcer is a crater-like sore in the wall of the stomach, duodenum or small intestine. It varies in size but it is rarely larger than two and one-half inches in diameter. It is not a local disease; rather, it is but one manifestation of general systemic impairment and derangement brought about by faulty living habits. The gastric juice of the ulcer patient is always too acid and hence is a causative factor in the production of the sore. The excessive acidity is not confined to merely the gastric juice but extends throughout the entire body. It is due in part to the consumption of excessive amounts of foods which have an acid reaction, foods such as cereals, bread, meat, cheese, eggs and denatured products of all kinds. Irritating condiments and laxatives lead to ulcers in many instances, and the fact that ulcers can be produced at will in white rats by feeding them caffeine lends support to the theory that coffee drinking plays a role in creating conditions which favor the development of the disease.

J.C. Meakins, M.D., L.L.D., writes in *The Practice of Medicine* that "the cause of peptic ulcer is unknown." Other doctors agree, but this does not prevent them from treating the disease. Lacking knowledge of cause, they treat the symptoms.The antiquated Sippy diet, which consist of taking milk and cream every two hours, followed later by a bland diet and inorganic alkaline powders, is employed in practically every case. The milk and cream combine with the gastric juice and render it less irritating to the ulcer. The bland diet also is designed for its non-irritating properties, but it is formed predominantly of the acid-ash foods and hence adds to the primary cause of the ulcer. The alkaline powders temporarily neutralize stomach acidity but they also interfere with digestion and are of no value in removing the cause. Most patients are not permanently remedied on the Sippy diet and many of them resort to surgery. The surgeon removes the ulcerous area or makes a new opening in the stomach, which drains the acids more readily and hence give rest to the original ulcer site. The patient occasionally experiences some temporary relief, but after he returns to his old dietary habits there is usually a recurrence of ulcers either at the original site or in an entirely new area.

Hygienic treatment is directed solely at removing the cause of the ulcer. A fast, which gives the affected area an opportunity to heal, is first employed. On the first two to four days of the fast there is often much discomfort resulting from the contact of the gastric juice with the ulcer; later, as gastric secretion ceases, all pain disappears and does not return. The fast must be of long duration, fully as long as that used in treating colitis. After the fast a highly alkaline fruitarian diet must be employed, and this should be combined with a program of exercise and sunbathing. Under this plan of treatment recovery may be expected in all except the most severe and advanced cases, though even these experience much improvement. If the ulcers have reached the stage where scar tissue has formed and contracted a portion of the intestinal or stomach wall to such an extent that pain is continuous, little or nothing can be done. Fortunately, however, this is not a common occurence and is the exception rather than the general rule. Scar tissue is usually present but seldom contracts the surrounding tissues to such an extent that irreparable harm is done. Barring then, this one rare exception, we may confidently expect ulcer patients to fully and completely recover under the hygienic plan of treatment.

CANCER

Cancer is a malignant growth which is associated with hardening of the tissue, extended cell growth and an unusually rapid rate of cell multiplication. It is the end-point of a long, drawn out process of pathological development brought about by toxemia and chemical deficiencies.

Back of every case of cancer is a history of wrong eating and other body abuses. Experiments with rats show that these animals develop cancer when they are fed upon foods which are deficient in vitamins and minerals. In the world of primitive man cancer is wholly unknown or is a very rare occurrence. Primitives become highly susceptible to cancer only after they adopt a modernized diet. It is only the domesticated animals and captive wild animals which are afflicted with cancer to any appreciable extent, and even they are less susceptible than is man. Observations of human and animal life throughout the world show one thing clearly: cancer is the product of modern living habits, including the use of highly refined foods. It attains no prominence when the diet remains comparatively natural and well-balanced.

Radium and surgery are the chief methods of treatment employed by the doctors of today. The radium is of some value in destroying the diseased tissue, and small cancerous growths can be removed by the surgeon. But cancer is a systemic disease which involves the whole body. Destroy or remove the growths if you will, but they will usually come back in a different area and possibly in a more virulent form. It must be remembered that neither radium nor surgery removes the cause of cancer. They treat the end-points of the pathology only and do nothing whatsoever to prevent recurring growths throughout the body. There is also danger involved in the surgical operation, danger which is non-existent under the hygienic method of treatment.

In many cases cancer can be completely and permanently remedied. Both fasts and elimination diets are of value, but the former will produce the most rapid results and frequently succeeds where the other fails or permits only partial recovery. The fast should be of long duration; it is useless to expect short fasts to remedy such deep-seated ailments as cancer. Sunbathing should be employed as soon as possible, and the fast should be followed by a raw fruitarian diet with no deviations therefrom. A planned program of exercise should begin as soon as the strength and energy permit. During the fast the cancerous growth will be absorbed, and the mode of living after the fast will prevent a recurrence of the disease. Only the minority of cancer patients, those who have allowed the cancer to develop year after year into its most advanced stage, cannot be helped by the hygienic procedure. Early treatment practically insures success and complete recovery.

DIABETES

Sugar must be oxidized before it can be used to best advantage by the body. With the aid of insulin, a secretion of the pancreas, it is normally oxidized in the blood, changed into glycogen, and transferred to the liver and muscles where it is used and ultimately changed into carbon dioxide and water. The pancreas is formed of very small parts called islands of langerhans. When these are deranged, impaired or destroyed the pancreas is unable to secrete enough insulin to oxidize all of the sugar eaten, the excess accumulates in the blood and eventually passes out of the body in the urine. The patient develops all sorts of unpleasant symptoms—usually the loss of weight, headaches, depression, constipation, a sweet breath, glazed tongue, dry skin and occasionally a tendency towards pyorrhea and bleeding gums. When the sugar saturation of the blood reaches a certain point and the urine can tolerate no more, the sugar breaks down into materials called ketones and acetones. The patient then enters the pre-coma and coma stage, which is followed shortly thereafter by death. This whole train of symptoms, from the first excess of sugar in the blood and urine to the coma stage, in known as diabetes.

Daytons *Practice of Medicine* gives heredity, male sex, adult life, Jewish race, obesity, cerebral or spinal disease or injury, infectious diseases and nervous strain as the factors which create a pre-disposition to diabetes. It claims that the "actual cause is unknown. Pancreatic disease is probably important." These contentions are not in accordance with the known facts. It requires a wild imagination to picture

Jewish race, adult life and male sex as indirect causes of diabetes or any other disease. A weakened hereditary background brought about by the deficient diets of the parents is the only important factor which creates a pre-disposition to diabetes. The direct causes which activate the pre-disposition into a pathological form are toxic irritants and chemical deficiencies resulting from improper eating habits. Pancreatic disease is not a cause in itself. It is but a symptom of diabetes, an end-point of a long process of pathological development.

The medical failure to understand cause is followed by the expected ineffective treatment. Once a diabetic, always a diabetic--that is the verdict in nearly all cases. Injections of insulin are given to permit oxidation of the sugar, the patient's life is somewhat prolonged, but no complete permanent recovery follows. The moment the insulin injections stop the patient goes downhill fast. A low sugar diet is also employed but no attempt is made to restore the functioning power of the pancreas. The little islands of langerhans continue to be impaired and destroyed with the result that the patient gradually grows weaker and weaker. The outcome is never favorable and frequently ends in death during a coma.

The possibility of recovery depends upon the amount of functioning power remaining in the pancreas. This power, under normal conditions, is far in excess of what is actually needed; hence, even if some of the islands of langerhans have been destroyed, recovery may take place. The immediate need is to prevent all further tissue destruction and give the weakened tissues a rest so they may recuperate and regain their vital powers. A fast will meet this need most effectively. It will permit recovery in all except the most advanced cases, and even in these the life can usually be greatly prolonged. No insulin injections should be given at any time. Following the fast the high-sugar foods should be introduced into the diet gradually; go easy on sweet fruits such as dates and dried figs for at least a few weeks. After that the normal fruitarian diet, together with a program of sunbathing and exercise will prevent further pancreatic impairment and other diabetic symptoms.

SKIN DISEASES

In the medical vocabulary there are over 100 well-defined skin diseases. Most of them manifest themselves in the form of small pimples or eruptions. Acne is the most common of all skin diseases and is inflammation of the oil glands of the skin and follicles of the tiny hairs which are attached to the oil glands.

The center of the field of inflammation is the blackhead. Around it the pimple forms and on the end of the pimple there usually forms a small pus-containing pustule. Eventually, the pustule turns into a sort of hard crust and falls off. The inflammation then subsides and recovery is made, but there often is left a small scar or pit which never goes away. It is this scar tissue which is most undesirable and detracts so much from facial beauty.

The preceding description is of the most common form of acne. Some of the other forms are more severe; acne indurate; malnutritional acne, affecting chiefly the calves and thighs; scurvy acne, associated with hemorrhages into the skin; and hypertrophic acne, which is followed by the over-growth of connective tissue. All of these are similar except in the appearance of outward symptoms. They are all associated with inflammation, have similar causes and require similar treatment.

The direct cause of acne is the presence of irritating toxins in and near the oil glands due to the failure of these glands and the rest of the skin to get the chemical elements they need from the blood. When the skin is underfed, an abnormally large number of cells die. These supply food for bacteria which in turn are a secondary causative factor of certain skin diseases. A perfect chemical balance does more than anything else to preserve a clear, healthy skin.

The medical treatment for acne and other forms of skin disease consists of the application of various salves, lotions and ointments, together with drug injections and occasionally the use of vitamin A in the form of fish liver oil and synthetic vitamin B. The external applications and the injections occasionally suppress the disease temporarily but there is usually a recurrence as soon as treatment ends. The vitamin preparations are distinctly inferior to natural foods. The fish liver oil, even though it is a rich source of vitamin A, falls far short of being a healthful product. The combination of external applications, injections and concentrates generally fails to remove acne permanently and often fails to provide even temporary relief.

Acne and most other skin diseases may be remedied speedily and completely by a general health-building program. This should start with a fast during which time the existing pimples will be absorbed and future eruptions will be checked. Simple acne disappears on fasts of from one to two weeks in duration. The more severe forms, and also eczema, require longer fasts, often ranging in length up to three or four weeks. After the fast a diet of natural, uncooked foods which supply the skin with the elements it needs, should be adopted. To strengthen and increase the resistance of the skin to future disease, sunbaths and airbaths should be taken regularly. Light clothing should be worn and the skin should be kept clean at all times.

ARTHRITIS, RHEUMATISM AND GOUT

Arthritis, rheumatism and gout are all names of the same condition and apply to inflammation of the joints. Rheumatism is also used to denote the inflammation of muscular tissue, and gout is restricted to inflamed toe joints. Associated with the inflammation is a lack of the synovial fluid which is normally present in the joints. Usually there are also heavy incrustations of mineral deposits in the joints, and these tend to impair mobility and cause stiffness. All of these conditions may be either acute or chronic. In the acute stage they are accompanied by fever and are most sever and painful. In many cases acute arthritis becomes chronic and spreads from joint to joint throughout the body. In time the joint structures themselves may be destroyed.

Bacteria tend to produce arthritis when the body suffers from a lack of vitamin C. Arthritis can be produced in white rats at will through bacteria injections when the animals' diet lacks vitamin C. But all attempts to give the rats arthritis when their diet is adequate in all repects have failed. Bacteria appear to be a secondary cause of this condition at most. The real underlying cause is the presence of diseased tissue which has been irritated by toxins. This tissue gives the bacteria an ideal habitat in which they may do their work. To prevent arthritis you must stop doing the things which produce toxemia. You must stop eating devitalized foods which cause a lack of synovial fluid, and you must avoid all intake of inorganic minerals, including common table salt, as some of these have a tendency to cause deposits in the joints.

Medical authorities trace arthritis to some "foci of infection" such as infected teeth, tonsils, gall bladder, appendix, kidneys or sinuses. In the hope of remedying the arthritis, surgery is often resorted to. The sinuses may be scraped, and the teeth, tonsils, gall bladder or appendix may be removed. Coupled with the surgical treatment various drugs are employed to kill the bacteria which supposedly cause the arthritis. The results of this treatment are not very satisfactory.A few patients note that the most painful symptoms are temporarily suppressed; most of the patients are not helped at all. And it is important to note that in nearly all cases there is a definite impairment of health resulting from drug poisoning and the unnecessary removal of important organs. In spite of the most extensive medical treatment there are still 6,000,000 arthritis sufferers in the United States, and there is no indication that the figure will be lowered in the future. Indeed, the inefficiency of medical treatment and the lack of medical preventive knowledge may actually help to increase the prevalency of arthritis.

Practically all forms of arthritis and related diseases can be speedily remedied (the deformities cannot be corrected). The first requirement is the provision of physiological rest which will enable the inflammation to subside and permit the removal of the toxic deposits in and about the joints. A fast or elimination diet will best supply this rest. The most rapid results will be obtained on the fast; one to three weeks is usually required to facilitate recovery. The elimination diet works slower; it may have to be used several weeks before the desired results are achieved. Sunbathing should be used in addition to the eliminative regime. Exercise is to be employed as soon as recovery is far enough along to permit movement of joints without undue pain or difficulty. After all symptoms disappear the fruitarian diet should be adopted to make the remedy a permanent one.

TUBERCULOSIS

Tuberculosis is a condition characterized by the general wasting away of tissues and the formation of small nodular growths known as tubercles. It may occur in any part of the body, though the lungs, bones, kidneys, bronchial tubes, alimentary canal, brain and skin are most susceptible. The names given to each of the forms of tuberculosis are not indicative of specific diseases; they only indicate the locality in which the tissue destruction and nodular formation take place.

The causes of tuberculosis have long been a subject of much controversy. Medical authorities place all the blame on the tubercle bacillus of Koch. In his *Medical Diagnosis* Green declares that this bacteria "may be present early, more often late, or in rare instances be absent throughout" the entire history of the tubercular patient. Obviously this is a strange type of disease which usually commences and occasionally runs its full course in the absence of its cause. We have heard here the equivalent of a causeless effect. Also, the fact that millions of people who display no symptoms of tuberculosis harbor the tubercle bacillus, provides us with an effectless cause. This type of reasoning may be suitable to medical science but it is not suitable to the Hygienic system. We must look further for a solution.

Races which still live upon their native, unrefined foods are notoriously free from tuberculosis. This is true of the Indian tribes of the arctic regions as well as the South Sea Islanders of the tropics. But these same primitives die in great numbers from tuberculosis after they adopt the denatured diet of civilization. This would seem to indicate that the chemical deficiencies resulting from the refining of foodstuffs and perhaps the toxic poisons which are found in so many modern foods are the chief causes of tuberculosis. The causative factors are chemical rather than bacterial. At most, the bacteria are secondary cause. They may play the role in the destruction of tissue but it is the chemical deficiencies and the toxic overloads which give them a suitable environment in which to thrive and do their damage. We can destroy the tubercle bacillus again and again but fail to prevent tuberculosis. However, when we live in a manner which provides perfect chemical balance, the prevention of this disease is assured.

Present day medical treatment abuses tubercular patients instead of helping them. Doctors speak of the supposedly great harm done by the tubercle bacillus, and in the next breath they recommend diets which supply it with an ideal environment in which to work and thrive. Overfeeding, as well as the use of refined breads, pastries, cakes and pasteurized milk is the general rule in medical tubercular sanatoriums throughout America. Periods of rest in bed with neglect of exercise are common. Sunbathing is given practically no consideration. Rollier's Institute of Heliotherapy, of Switzerland, is one of the few medical institutions which provides tubercular patients with relatively good care. It is likewise one of the few which presents a record of recoveries it may be proud of.

The hygienic treatment for tuberculosis begins with a short fast. Long fasts have been used, but the difficulty certain tubercular patients have in gaining weight following them makes them inadvisable at this time. A prolonged elimination diet may be used in place of the fast or might well be used to follow the fast. When a normal diet is resumed it should consist entirely of uncooked foods, preferably those of the plant kingdom. Sunbathing is advisable in every case. The first sunbaths should be of very short duration; in the interests of safety the rate of progression should be slower than usual. Exercise is always valuable in treating tuberculosis. The first movements should be very mild, and not until much improvement has been made should any of the strenuous ones be employed. Fresh air is important also and should be taken at every opportunity. Patients should sleep with their windows open every night. Sub-zero temperatures should be avoided as much as possible by those with consumption (tuberculosis of the lungs), as the extreme cold tends to irritate the lungs. The consumptive can recover most rapidly in a warm climate although this is not always essential.

Tissue which has been destroyed obviously cannot be replaced whether the Hygienic System is employed or not. However, all further destruction and wastage can be checked and a great improvement in health made. If you have tuberculosis you most certainly can recover sufficiently to permit a useful life unless you have allowed your condition to take you to the very brink of death. No forms of tuberculosis are incurable in their early stages. Only after the tissue destruction has gone so far as to remove the power of an organ to function is recovery uncertain or impossible.

HEART DISEASE

There is a wide variety of heart diseases. They vary somewhat in their essential nature but in all cases the functional efficiency of the heart is impaired, and unless special remedial steps are taken death is the certain outcome. Most of the common forms of heart derangement are associated with inflammation or degeneration of the heart muscle, hardening of the coronary artery, slow or rapid heart beat, overgrowth of the heart tissue (this is not always pathological), dilation of the heart muscle, inflammation of the lining of the heart, or fatty degeneration of the heart. As the nature of the heart impairments vary, so do the symptoms. However, as a general rule most patients suffer from light to severe pains in the heart region. Associated with these is often shortness of breath, a feeling of imminent death during each attack, an irregular pulse, occasional periodic fever and general weakness.

The chief causes of heart disease are vitamin deficiencies, irritation from poisons, and lack of exercise. The heart is the first organ to suffer when vitamin B is undersupplied in the diet. In human beings heart impairment has been produced on experimental diets. Both Dr. Russell Wilder of the Mayo Clinic, and Dr. Norman Jolliffe of the Cornell Medical School, have placed groups of people on diets lacking vitamin B, and found that within a few weeks to several weeks the individuals noticed symptoms of heart disease, including an irregular pulse and shortness of breath. The use of foods rich in vitamin B restored the hearts to normal. A lack of vitamin C also is a cause of heart trouble. When the diets of experimental animals lack this vitamin their hearts usually suffer in one way or another.

The caffeine of coffee has produced no small amount of heart disease. Some patients recover simply by eliminating coffee from their diet. Drugs are also highly toxic and tend to produce heart derangements. The salicylates used in treating rheumatism rank among the chief offenders. Doctors often speak of the great amount of heart trouble which follows rheumatism, but they fail to realize that it is the drug and not the rheumatism which is the causative factor. It is chiefly among the rheumatic patients who are drugged that heart trouble follows as a complication. The toxins resulting from the impaired elimination of cellular waste matter also probably play an important role in the production of heart disease. Associated with the toxins of external origin, they irritate the heart tissues and produce inflammation.

A strong, healthy heart must be exercised regularly. Quite frequently when people live sedentary lives the heart suffers from lack of use. Its muscles are weakened, and if the inactivity is carried to the extreme, degeneration and atrophy follow. Those who use tobacco regularly suffer most from heart disease. Smoking induces shallow breathing which in turn gives the heart the least amount of exercise. When you breathe deeply the heart is used and stimulated into greater activity. It is strengthened and gains greater resistance to disease. The combination of sedentary living and smoking plays havoc with even the strongest heart.

From a medical standpoint most forms of heart disease are incurable. Drugs are often used in the hope of promoting recovery but they have failed completely.

Vitamin and mineral concentrates are gaining new prominence as remedies for heart trouble, and though they are less damaging to body tissues than are the drugs, they have not lived up to expectations. Doctors still do not place any great importance upon diet in treating heart disease. The only good part of their program appears to be their insistence upon rest for the patient, but even here they have gone too far. Rest is good but it can be overdone. The forced rest, coupled with the absence of any well-planned program of exercise, has probably worked against recovery in many cases.

The first requirement in all cases of heart disease is fasting. This is the best method of giving the impaired heart the rest it so badly needs. During this physiological rest the heart is strengthened, its inflamed tissues are healed, and quite often its degenerated tissues are normalized. On the fast the heart should be watched carefully. If it becomes very erratic or irregular the fast should be broken and a prolonged elimination diet used in its place. Following the fast or elimination diet the fruitarian dietary regime may be used. Great care must be taken to chew all food thoroughly and to eat moderately so as to prevent the formation of gas. When gas is present it has a tendency to press against the liver which in turn presses the heart and produces discomfort, and if the heart is still weak, a heart attack. Sunbaths should be taken regularly, and as the strength increases exercise may be employed. The first exercise should be very mild. After a few months or more of steady progression the more strenuous exercises may be used. Between exercise periods the body should receive plenty of rest, care taken to avoid overwork and fatique at all times.

The possibility of complete recovery from heart disease naturally must depend upon many factors. Practically every form of this disease can reach the stage where no help can be given. There are also certain conditions such as dilation of the heart, hemopericardium (blood in the pericardium), and calcified pericardium, which can usually be remedied only partially in any stage. But the most common heart afflictions such as angina pectoris, acute myocarditis, fatty overgrowth of the heart, endocarditis and ordinary pericarditis are among those which respond most favorably to the hygienic treatment. In their early stages complete recovery can often be expected, and even when the condition has advanced too far to permit this there is usually enough improvement to eliminate most of the discomfort and prolong the life for many years.

INFANTILE PARALYSIS

Infantile Paralysis is also known as anterior poliomyelitis and characterized by atrophy or inflammation of the anterior grey horns of the spinal cord, together with the wasting of the muscles and their corresponding loss of power. The hands are usually affected first. They lose their power and assume a clawlike position. There are often twitchings and tremors in the muscles of the arms, shoulders, neck and trunk.. Gradually the muscular wastage spreads until the legs themselves may be affected. In rare cases the first symptoms are noticed in the lower part of the back and spread to other parts of the body from this area. The great loss of muscular tissue is always apparent, and in the later stages the patient becomes quite emaciated. Infants and young children are affected more often than others; hence the disease has been called infantile paralysis.

Medical authorities claim that the cause of infantile paralysis and other forms of polio is an undiscovered form of bacteria or virus which is carried by flies and other insects. In the interests of science it would be better to discover the existence of the offending agent before indentifying it as a causative factor. Attempting to destroy undiscovered germs belongs to the world of occult rather than scientific activities. The real cause of infantile paralysis is unbalanced chemistry. The disease is common only in those areas where refined foods which lack sufficient vitamins and minerals are used. Among primitive groups who still use their native foods it is very rare or altogether non-existent. Toxins also play a role in producing this disease. Paralysis is occasionally an aftermath of drug, serum and vaccine poisoining. It develops most often after the tonsils (which neutralize toxins) are removed.

Medical efforts to prevent and completely remedy infantile paralysis and other forms of polio are usually failures. A chemical spray known as DDT is employed as a modern preventive but it not only does not prevent the disease, it also is highly toxic to the human body. Complete physical collapse and serious illness following the use of DDT in homes and public lavatories was reported when the spray was used in the 1945 Rockford, Ill., polio epidemic.

The orthodox medical treatment for this disease includes the use of toxic drugs (the newest of which is neostigmine) and plaster of paris casts, splints and braces to forcibly correct the deformities. The few patients who recover do so in spite of this treatment rather than because of it. The Sister Kenny method of caring for polio patients is inadequate but nevertheless it is less abusive than the orthodox treatment. Sister Kenny does not poison her patients with drugs and torture the already weakened muscles by placing them in plaster casts. She uses massage, exercise and hot water application as the basis of her program of treatment. The exercise is undoubtedly of much value but the massage and water applications are mere palliatives which probably do not promote recovery. Certainly the modernized foods used by Sister Kenny harm rather than help the patients. Her failure to employ heliotherapy cannot be approved. The record of Sister Kenny is from 50 to 100 per cent better than that of the orthodox physicians in spite of her failure to provide patients with a well-balanced program of healthful living. The great help which is given to polio patients simply by her employment of exercises indicates how much more we can expect with the fullest and most complete application of the Hygienic System.

Fasting, natural diet, and sunbathing, in addition to exercise, form the basis of the hygienic treatment of infantile paralysis. The fast should begin at the sign of the first symptom and should be continued if possible until there is a certain amount of improvement. But this improvement, if it does occur while fasting, is not usually great. The real work must be done after the fast, with an extensive program of exercise and sunbathing. The first exercises may have to be passive, the movements being made with assistance of a helper. With each movement the patient should concentrate as much as possible upon voluntary muscular action. In time voluntary movement of the affected areas may be possible. Care must be taken to use very slow movements at first and never to exercise to the point of fatigue. The sunbaths should be taken every day if possible. The diet should be fruitarian, a radical departure from that employed by Sister Kenny and orthodox physicians, for theirs usually includes pasteurized milk, cooked vegetables, white bread, white sugar, coffee and other unwholesome foods.

Other forms of paralysis may be treated by the same methods. Muscular dystrophy, the disease which caused the early death of the famed Lou Gehrig, and which of late has been receiving considerable newspaper publicity, should respond favorably to hygienic treatment. If the hygienic plan of care is instituted early enough many of the paralysis victims can expect complete recovery with no resulting deformity, and certainly most of the others can expect improvement. Voluntary muscular action can usually be restored. After the acute symptoms have passed and the disease has advanced well into its chronic stage with pronounced deformities, the amount of help that can be given is often distinctly limited. The muscular wastage may be arrested, a certain amount of muscular action may be restored and the life may be prolonged, but the actual deformity of the limbs cannot always be corrected. Early treatment gives the best assurance of complete recovery.

LEUKEMIA

Leukemia is not a common disease but it is so generally misunderstood by physician and layman alike that it deserves mention here. Leukemia is associated with an excess of white cells in the blood, impairment of the cells of the bone marrow and, in some cases, impairment of the lymphatic glands. The chief noticeable symptoms are a pale complexion, general weakness, enlargement of the abdomen caused by an increase in the size of the spleen, pain in the area of the spleen, occasional digestive distress, recurring fever and progressive emaciation. In the advanced stages there is a lack of red blood cells and an increased tendency toward hemorrhages from the membranes into the skin and brain.

Medical authorities claim that the cause of leukemia is unknown. Be this as it may, hygienists have always noticed that the disease is most common among those whose diets are most defective and those who live in regions where sunshine is least abundant. There is no reason to believe that leukemia has different causes than other blood diseases. The efficient function of the spleen and other lymph glands as well as of the bone materials fail in their work of controlling the chemistry and organization of the blood when they are not supplied with the vitamins and minerals they need. The importance of sunshine in all conditions which affect the blood and lymph glands has long been known by those who have employed heliotherapy.

The medical treatment consists of the use of the X-Ray and the injection of radio-active substances such as phosphorus. No patients recover under this plan of treatment. Temporary relief is experienced but the disease always proves fatal. It is for this reason that so much publicity is given to the victims of leukemia. Newspapers report day by day the decline and progress of the leukemia patients, often bringing to them nation wide attention.

The only cases of leukemia which are not given newspaper publicity are those which experience recovery, either partial or complete. Three noted hygienists, Herbert M. Shelton, George R. Weger and J.M. Tilden, have reported good results in treating this disease by natural methods. A fast is the first requirement. It should be followed by a fruitarian diet and a program of sunbathing and exercise. The sunbaths should be stressed above all else. Exercise should be taken in proportion to the patient's strength, and the rate of progression should not be too rapid. Immediate recovery should not be expected. Leukemia is a deep-seated condition which requires prolonged treatment. Little of value can be accomplished within a few weeks or a few months unless treatment begins while the disease is in its earliest stages. Patients with advanced leukemia cannot hope to recover in less than six months to a year. When the disease is permitted to go so far that complete recovery is impossible there is generally notable improvement and considerable prolongation of life.

GALL BLADDER INFECTIONS

The gall bladder is a small membranous pear-shaped bag located just below the liver. Its purpose is to store and discharge into the intestine, during periods of digestion, the bile which has previously been secreted by the liver. Bile carries the vitamins A, D, E, and K from the intestinal wall into the blood. When it is absent these vitamins are not absorbed but pass through the digestive tract with the stools. Bile is also necessary to break up fat into very small droplets which can be acted upon by the fat-digesting enzymes. When bile is lacking the fat remains largely undigested, surrounds the other small food particles and thus prevents the digestive enzymes from working upon them. The ultimate result is frequently much gas and other digestive distress.

When the inner mucous membrane lining of the gall bladder and bile duct is inflamed, little bile is sent into the small intestine. The duct is so greatly swollen that an adequate supply of bile is prevented from flowing through it. Consequently, vitamins A, D, E and K are not absorbed by the blood and digestion is incomplete. Nearly all victims of gall bladder trouble suffer from eye ailments in some form because they lack vitamin A. They frequently suffer from indigestion, pains in the region of the gall bladder, vomiting, diarrhea, foul breath, chills and excessive perspiration. In the advanced stages small stones from as small as grains of sand to as large as walnuts often form in the gall bladder. They cause little or no discomfort if they remain there, but more often than not the small stones enter the bile duct and pass through into the intestine. This passage is often accompanied by the most severe pains, which quickly cease as soon as the stones enter the intestine.

The medical treatment of gall bladder infection and gallstones consists of the employment of a diet low in its fat content, special bile tablets and, in advanced cases, artificial drainage of the gall bladder or its complete removal. None of these forms of treatment remove the underlying causes of this disease. They do not restore the function of the liver so that its bile secretions into the gall bladder may be normalized. They do not remove the irritating toxins which produce the catarrhal inflammation of the bladder lining. The bile tablets and low fat diets are, at most, "crutches" for the weakened gall bladder, and the surgical removal of this organ is accompanied with much danger, the possiblity of poisoning from the anaesthesia used, and a lowered resistance to disease in general in the future.

Simple gall bladder and bile duct infection is completely remedied on fasts of one to three weeks in duration. The pus is removed, the inflammation subsides and the tissues are healed during the physiological rest. When stones have formed in the gall bladder longer fasts are required. During these the stones are softened and later disintegrate and pass through the bile duct into the small intestine. With the removal of the last stones, all pain ceases and recovery is complete. There is never a recurrence of the trouble if the mode of living is proper after the fast. The uncooked diet and the use of abdominal exercise is recommended.

APPENDICITIS

The appendix is a small worm-like organ attached to the first portion of the ascending colon. Under normal conditions its purpose is to secrete a mucous fluid into the colon. This fluid acts as a lubricant and helps to assure normal elimination. In the absence of the appendix there is a great tendency toward constipation. The vast majority of people who have undergone an appendectomy are constipated although prior to the operation elimination was relatively normal. The appendix is composed largely of lymphoid tissue and may act as a purifier and toxin-destroyer just as do most of the other lymph glands of the body. Its function may be two-fold: to secrete a lubricant into the colon and neutralize or destroy toxins.

Appendicitis is inflammation of the appendix. It may be acute, chronic, gangrenous or ruptured with peritonitis and abscess formation. In practically all cases it is due to irritation from toxins which have entered the body in the food supply and toxins resulting from the impaired elimination of the end products of metabolism. Behind appendicitis is a history of wrong eating. A hygienic mode of living produces immunity to the disease.

Recovery in all cases should be expected if a fast is instituted at the sign of the first symptom and continued until the appendix has had time to dispose of the obstructing toxins and heal itself. Most cases clear up completely within two weeks of fasting at the most. A week of fasting is all that is required in the lighter cases. No enemas or laxatives should be used. Surgery is entirely unnecessary.

If the appendix has ruptured it is especially important that the patient start fasting immediately and that he does not resort to surgery. The mortality rate in cases of acute, gangrenous, ruptured appendicitis with peritonitis is only 1.43 per cent when the operation is deferred. Immediate operations for the same condition have provided a mortality rate of 10.64 per cent. (Reference: Journal of the American Medical Association, Dec. 5, 1936, page 1910.) So you run nearly eight times the chance of losing your life if you are operated on. Surely the wisest and safest policy is to avoid surgery and turn to hygiene. When this is done the appendix ruptures into the abdominal cavity. If resistance is high the resulting inflammation of the abdominal lining is walled off in an abcess formation with little or no danger; if resistance is lowered the inflamation may spread throughout the whole abdominal region. While resting the inflammation is given the best chance to subside. However, if surgery is employed the resistance will be lowered still further and the infection may continue spreading until death results. The solution is then obvious. It involves fasting until recovery is complete.

TONSILLITIS

The tonsils are small clusters of lymphoid tissue found just behind the mouth cavity. Their purpose is to filter out toxins from the blood, and they appear to greatly add to the body's resistance to many types of disease. Their removal is followed by greater susceptibility to bronchitis, pneumonia, abnormal growth rates and systemic diseases. Records show that the bulbar type of poliomyelitis develops five times as often in children who have had their tonsils removed than in others.

The removal of tonsils not only impairs the body's future resistance to disease; it also is associated with much danger during the operation. Tonsillar hemorrhages are quite frequent, voices are occasionally ruined, parts of the infected tonsil may slip down the throat and infect the lungs, and death may result from the use of anesthesia. Any or all of these things can happen during a tonsillectomy. This is no minor operation. It can be accompanied by dire complications.

Infected tonsils are inflamed tonsils. The inflammation occurs as a result of an excess of irritating toxic substances and is really evidence of curative action. Refined and cooked foods, together with a lack of sunshine, exercise and fresh air are the basic causes of all cases of tonsillitis. They produce more toxins than can be neutralized without the development of pathological symptoms.

Though tonsils should not be removed, neither should they be permitted to remain infected. A hygienic plan of care should be instituted at once. A fast or elimination diet is generally essential, though in most cases it need not be of long duration. On the fast or diet the inflammation subsides and recovery is complete. Sunshine is also of much value and shortens the time required for recovery.

THE COMMON COLD

The cold is the most common of all acute diseases. It is always associated with inflammation of the membrane lining passages and the hypersecretion of mucous which is generally eliminated through the nose. These symptoms are the result of toxemia and enervation. Those who develop colds most often live sedentary lives, get little or no sunshine and live chiefly on cooked foods. When the resultant toxins reach the nasal mucous membrane, inflammation develops as a means of eliminating them. An excessive amount of mucous is secreted and covers the membrane to protect it from the irritating effects of the toxins. After elimination is complete and the membrane has freed itself from all irritating agents, the cold ceases and is said to have "run its course."

Medical science claims that the cause of the common cold is unknown. Bacteria or virus are suspected as possible causes, but no one has ever proved that there is any relation between these and colds. Lacking a knowledge of cause, doctors are unable to either prevent colds or limit their duration in all cases. After spending huge sums of money and much time and energy in research, medical authorities know about as much about the cause and proper treatment of the cold as they did a thousand years ago. As practically all of their research is bent upon finding the bacteria which supposedly cause all of the trouble, their failure is a foregone conclusion.

Colds are not caught and they are not given to others. They do not result from a draft of fresh air, wet feet or overexposure in rainy cold weather. Colds frequently follow this exposure but the underlying causes are distinct and different from this. At the most, undue exposure acts as the immediate inciting agent for the eliminating crisis. In this role it acts as a benefactor, not as an enemy or primary causative factor.

The common cold costs 100,000,000 working days and $2,000,000,000 per year in America. These figures show the need for a mode of living which both prevents colds and limits their duration to the shortest possible length of time. A mode of living which does this is based upon natural hygiene. It calls for periodic exercise, sunbathing and diet as preventives, and fasting as the remedy. Colds never become chronic if no food and drugs are used from the outset. Fasting produces speedy recoveries in all cases. It generally limits the duration of the cold to three to five days or less and removes all possibility of dangerous complications. If the circumstances do not permit fasting an elimination diet may be used as second choice and will produce good results.

Syphilis

Syphilis is a mythological disease which was created by medical science through centuries of painstaking effort. Its origin dates back to the latter part of the fifteenth century. Most authorities claim that Columbus and his fellow sailors caught it from the Indians. Then when they returned to Europe, they are said to have spread the disease among the members of that continent until it reached epidemic proportions. As the years rolled by new and more horrible stories were spread about syphilis. Eventually syphilis became a veritable nightmare, developing later into something like a mad man's dream with resulting hysterical mania, turning both doctors and their patients into syphilimaniacs.

Medical works name local ulcers, swollen lymph glands, fever blisters, cold sores, tonsilitis, skin rash, fever, headaches, indigestion, loss of hair, partial or complete blindness, heart disease, locomotor ataxia, tumors, vague constitutional pains, rheumatism, enlarged liver, abdominal rheumatism, abdominal dropsy, apoplexy, Bright's disease and laukoplakia as the most common symptoms of syphilis, though others may also be present. In fact, the symptoms of syphilis are really the symptoms of every known disease. Sir William Osler called syphilis "the great imitator" because of its ability to imitate practically all diseases. Indeed, syphilis is a pathological mocking bird. Virtually all pathological symptoms have at one time or another been ascribed to it. It has no specific symptoms which belong to it alone. Thus it cannot be defined or diagnosed on the basis of any symptoms which may happen to be present. In this sense it differs from all known disease; it is in a class by itself.

Tiny corkscrew bacteria known as spirochetes are referred to as the cause of syphilis. However, as Dr. Becker remarks in his *Ten Million Americans have it,* "It is not always possible to find spirochetes, even in lesions that are proved to be syphilitic. Failure to find the germs on a dark field examination does not necessarily mean that the lesion is not syphilitic." Syphilis then cannot be diagnosed on the basis of spirochete invasion. These bacteria may or may not be present. They cannot be a specific cause of syphilis.

In 1906 August von Wassermann and colleagues, Bruck and Neisser, announced to the medical world that they had discovered an accurate method of diagnosing syphilis. This method was known as the Wassermann blood test. It was supposed to reveal the blood changes which were assumed to follow "syphilitic infection." At first there was a good deal of enthusiasm over the Wasserman test, but now it is openly admitted that a positive reaction does not necessarily mean that a person has syphilis; nor is a negative reaction sufficient proof in itself that one is not syphilitic. A positive reaction to the Wassermann test is said to mean syphilis only if other evidence of syphilis are present. These other evidences include the presence of spirochetes as revealed in a dark field examination, a history of syphilis in the family, and the presence of abnormally large numbers of white blood cells in the spinal fluid. These evidences likewise denote syphilis only if each of the other evidences is present. Thus by putting together a group of uncertainties we are expected to arrive at a certainty. This is an impossibility in the field of science. A group of uncertainties simply creates more uncertainty. There is obviously no accurate method of diagnosing syphilis. No one can be sure he has syphilis and no one can be sure he hasn't. In fact, as a disease, syphilis cannot be defined. There are no specific symptoms which belong to it and no methods of diagnosis which indicate its presence. All is guesswork. Syphilis can only be called a phantasy; a product of the imagination.

Medical efforts to cure syphilis are directed at the destruction of spirochetes and towards changing the blood reaction to negative. A variety of drugs are used, including bismuth, inorganic potassium, inorganic iodine, inorganic arsenic compounds (chief in which is arsphenamine), mercury and penicillin. The most common toxic effects of bismuth are mental disease, skin diseases, ear diseases, glandular atrophy, indigestion, nervousness and inflamed membranes; those of mercury are irritation and degeneration of the kidneys; those of arsphenamine are severe skin inflammation, nausea, vomiting, diarrhea, heart disease, difficult breathing, malignant growth, degeneration of the liver, atrophy of the optic nerve, jaundice, paralysis, insanity and inflammation of the kidneys. The toxic effects of penicillin will no doubt become better known as the drug comes into general use. Many of the symptoms of so-called "late" syphilis are nothing more than the toxic effects of the drugs used to treat syphilis in its early stages. The effects of these drugs will be felt on a national scale when the medical attempts to make tests and treatments for syphilis compulsory succeed. With compulsory treatment will come mass murder. Millions will lose their health and thousands will die either as direct or indirect result of drug poisoning.

There is no hygienic treatment of syphilis. Treating conditions which cannot be defined or diagnosed as diseases belongs to the world of the occult only. Blood tests should be forgotten; no one need worry if his blood serum gives a positive reaction and no effort need be made to kill spirochetes. The symptoms which may be associated with syphilitic diagnosis should, of course, be treated hygienically, as they would if syphilis did not exist. Build health and permit the body to eliminate disease symptoms, if any exist by giving it the best hygienic care. That is as far as anyone who has been diagnosed as syphilitic need go. Don't let a positive Wasserman test turn your life into a nightmare. Remember that syphilis is a figment of the mind which has no real existence. It is a clever fabrication which has deluded even its fabricators. It belongs to the category of the fairy, the devil and the werewolf.

OTHER DISEASES

We have reviewed here just a few of the more common diseases. But what applies to them also applies to a great extent to all others. Remember this: disease is simply an effort of the body to right itself. It comes as a friend, not as an enemy. If it is not attacked and suppressed by drugs and other medical agents it will be in the best position to complete its work of renovation and to restore health. So don't try to suppress disease. Permit it to run its full course with no interference whatsoever from toxic drugs or the surgeon's knife.

You must not forget that food can also act as an interference when disease exists. In all acute ailments, regardless of the forms they take, fasting is the first requirement and should continue until all symptoms subside, unless an early arrival of the starvation period does not permit this. The danger of death from all acute infections including chickenpox, smallpox, typhoid fever, diphtheria, erysipelas, gonorrhea, influenza, malaria, malta fever, mumps, scarlet fever, measles, pneumonia, whooping cough and meningitis is reduced to a minimum when no drugs or foods are given throughout the course of illness. No hygienist ever expects to lose a single patient from acute disease if no drugs have previously been given and if the disease has not yet evolved to the point where the patient hovers between life and death. But even under these conditions fasting will do more than anything else to restore normal function and preserve life. There are no known incurable diseases; there are only incurable patients. Any disease can reach the stage where no form of treatment can preserve life, but these same diseases can always be helped if the hygienic plan of care is instituted before degeneration, tissue destruction and functional weakness have gone too far. Fortunately, most forms of pathological evolution can be checked in all but the most advanced stages. Irreparable damage seldom occurs during the beginning and middle course of an illness. Few indeed are the patients who are beyond all hope of help. Unless your body is in the last stages of degeneration you can restore your health sufficiently to lead a happy, useful life free from physical distress.

CHAPTER 16

Why Lose Your Teeth?

A Scientific Plan of Dental Care Which Gives You Teeth Which Are Free From All Decay

Tooth decay is the most prevalent of the degenerative diseases. It has been estimated that nearly all civilized peoples who live to an advanced age suffer from some tooth decay at one time or another. The person with perfect teeth is so rare that he is looked upon with curiosity by doctors and dentists, and is often given newspaper publicity. Even among children tooth decay is common. In many schools as high as 90 per cent of the children in the first grade show evidence of dental decay, usually in several forms.

The profession of dentistry should be doing something about this state of affairs. But as far as their work in preventing tooth decay is concerned, we might as well not have dentists. The dentist is quite apt at filling cavities but that is about as far as he goes. When it comes to warding off the decay in the first place he does just about nothing. There is no such thing as a science of preventive dentistry in our colleges and universities. The students are taught how to fix up bad teeth but no one seems to have thought of teaching them how to prevent bad teeth. Apparently the idea is too visionary to be given any practical consideration.

DENTAL FALLACIES

Orthodox nutritional scientists know a little more about teeth than do the dentists, but even they are at a loss to give us any really practical information. They tell us that teeth decay because of the acids generated by the fermentation of carbohydrate foods in the mouth. As proof, they say, look to the Eskimo;he has perfect teeth and uses virtually no high carhydrate foods. Of course there are primitive races, such as those of the South Sea Islands, who live largely upon fruits and vegetables which are very rich in carbohydrates. And the teeth of these races are fully as good as those of the Eskimo. In fact, they are better in the sense that they are generally of a pearly-white color (except when the betel nut is chewed). As much cannot be said for the teeth of the Eskimo. But most nutritional scientists are apparently unaware of the condition of the South Sea Islander's teeth. Likewise, they appear to be unaware of the good condition of the teeth of other primitive races which live primarily upon high carbohydrate foods. Even McCollum and Becker of John Hopkins University, have spoken favorably of the theory that carbohydrate foods cause tooth decay. They claim that "It is the carbohydrate eating people which suffer decay," and remark further that, "All investigators agree that acids arising from fermentation of carbohydrates are the primary causes of dental crisis." But their conclusions do not stand when all evidence on the subject is considered.

Another fallacy which is commonly held regarding the teeth is that "a clean tooth never decays." The cleanliness of teeth has little or nothing to do with tooth decay. Ideas to the contrary probably originated with those who manufacture tooth paste and tooth brushes. The teeth of some (but by no means all) primitives are, to put it mildly, filthy. But they do not decay. Clean teeth are a fine thing from an aesthetic standpoint. No one likes the appearance of dirty, stained teeth. But to claim that cleanliness is a preventive of tooth decay is a mistake.

Dr. Martha R. Jones, after receiving her degree at the University of California, conducted numerous experiments at a health center on a plantation near Honolulu, Hawaii. In these experiments the Hawaiian natives then using refined foods were returned to a diet composed of their native foods. Following this change the condition of their teeth improved markedly. Dr. Jones's explanation was that, all other factors being equal, a high alkaline diet is more conducive to the development of perfect teeth that is a diet which contains large quantities of acid elements. This, no doubt is true. The superiority of a high alkaline diet has been demonstrated again and again. However, in the case of this single disease--tooth decay--it should not be thought that a high alkaline diet is always essential as a preventive. The primitive Eskimos use chiefly those foods which provide an acid reaction, but they also possess excellent teeth. Also, it is to be noted that the isolated Swiss have good teeth and that their diet is composed largely of whole grains, most of the minerals of which give an acid reaction. If no refined foods are used good teeth are likely to result even though many foods with an acid reaction are eaten.

There is no doubt but what most civilized races which use high-carbohydrate foods yielding the acid-ash elements have bad teeth. But this means neither that carbohydrate foods are bad nor that foods which yield an acid-ash are bad (if eaten moderatly). It simply shows that refined carbohydrate foods which lack vitamins and minerals are incapable of preventing tooth decay. Refined foods, whether they have a high carbohydrate content or not, are objectionable. On the other hand natural foods such as dates and dried figs may contain as high as 70 per cent carbohydrate and at the same time encourage an excellent state of physical development, including perfect teeth. Of course any diet can be too rich in carbohydrates, but there is little danger that any individual who consumes a wide variety of natural foods will suffer from a carbohydrate excess.

FLOURINE AND THE TEETH

It is often held that we should use drinking water which contains considerable flourine because this mineral is necessary in building healthy teeth. It has been noted that in more than a hundred localities of the United States where the flourine content of water is from two to twelve parts per million, the people have less decay than average. But, as was shown in Chapter 6, the children in these districts also have mottled, stained and pitted teeth because of the flourine. The flourine content of water must be two parts per million or less if the staining of teeth is to be prevented. When present in such small amounts, the teeth seem to decay a little less readily, although the difference is not great enough to be of much concern. All facts considered, the addition of flourine to drinking water offers no worthy solution to our tooth problems. If more flourine is desired it should be obtained from natural foods. In this form it is found in an organic combination with other elements and does not have the disadvantages of the inorganic flourine of water. Raw plant foods can be relied upon for all the flourine we need. The remineralization of soils through improved methods of fertilization would allow the production of foods even richer in this element.

It had been quite conclusively shown in repeated experiments that diets which lack vitamins A and D and calcium and phosphorus are likely to prevent the development of good teeth. This has led many to recommend the use of fish liver oils which are rich in vitamins A and D, together with organic calcium and phosphorus as dietary supplements. Such advice may be well intended but it has led to well-nigh disastrous results. Scientists in Great Britain have found that fish liver oils, when used to any great extent, cause degeneration of the heart tissue. Weston A. Price has had similar experiences in America in his experiments with animals. It is quite possible that heart disease has becomes so common in recent years partly because of the use of cod liver oil and other fish liver oils. A well-balanced diet of natural foods, together with the use of sunbathing (which supplies vitamin D), should supply all of the vitamins and minerals which the body requires for good teeth. Neither fish liver oils nor calcium and phosphorus supplements are necessary.

USE CITRUS FRUIT JUICE

Dr. Milton T. Hanke, of the University of Chicago, is one of few who have conducted extensive experiments to find means of preventing tooth decay. He was given facilities at Moosehart, Ill., for supervising the diet of hundreds of the school children of that city. By simply adding to their menu one pint of orange juice and the juice of half a lemon per day he was able to lower the incidence of tooth decay among them by 50 per cent. In addition, the incidence of gingivitis (this is an ailment evidenced by bleeding, receding and inflamed gums) was greatly lowered . The latter experience is quite important when we consider that gingivitis is the forerunner of pyorrhea, and that, according to dentists, more teeth are lost from pyorrhea than from any other single cause. It is generally believed that the citrus fruit juices are effective in preventing tooth and gum trouble because of their high vitamin C content. But it does not necessarily follow that orange or lemon juice is essential in order to have good teeth. Perhaps other juicy fruits, rich in vitamin C, would provide equally good results. The experiments of Hanke have shown how important diet is as a preventive of dental troubles. They also indicated that, whereas citrus fruit juices are not essential, they could be added to the average diet with good results.

CLEANING THE TEETH

Many will notice, after adopting a diet of natural foods, that their teeth no longer need brushing. The soft, pasty diet of civilization is no doubt conducive to creating unclean teeth. The Polynesian races of the South Sea Islands have pearly-white teeth as long as they remain on their native diet and do not chew the betel nut. Yet, they never brush them. Most wild animals also have perfectly clean teeth. Raw foods, expecially raw fruits and vegetables, help to keep the teeth clean. They should be used liberally in the diet if clean teeth are desired. Of course we cannot expect everyone who eats the proper food to have perfectly white teeth. The teeth of some people require brushing no matter what foods they eat. In these cases the teeth may be cleaned with a soft cloth or they may be brushed with a soft brush. Stiff brushes should not be used because they irritate the gums and encourage gingivitis. Plain water is the safest cleansing agent to use, although some may find that a dentifrice is required. In such cases a dentrifice which does not contain poisonous nor irritating agents should be used.

Although tooth cavities can easily be prevented they do not necessarily fill themselves upon adoption of a proper diet. They do, however, become inactive; that is, decay is arrested when nutrition is improved. Dr. Hanke noticed this in his dental experiments as did Dr. Price in his examinations of primitive people who returned to their native diets after temporarily using modernized foods.

It should be apparent to any observer who is aware of the experiences of primitive races that there are no dental problems which we have not created ourselves. Nature is constantly striving to produce well-formed dental arches, as well as perfect teeth which do not decay. It is only when we interfere with Nature's plan by removing the vital elements from our foodstuffs that we meet with trouble. Under such conditions our teeth literally starve to death. With better nutrition they should last and serve us as long as we live.

CHAPTER 17

Better Vision Without Glasses

The Newest Methods of Building Perfect Eyesight Without the Use of Artificial Contrivances

We all want good eyesight--eyes that see clearly, that are bright and denote vitality. We do not want to suffer from eyestrain, nor do we enjoy wearing unattractive and bothersome glasses. Occulists and optometrists have been unable to give us healthy eyes. In spite of the increasing numbers of eye doctors who have entered public service in recent years our eyesight is becoming worse and worse. But this condition is not without solution. Thanks to the work of Dr. William H. Bates, of the New York Eye and Ear Infirmary, as well as other broadminded doctors and scientists, we now have a system of eye care which is marvelously effective, one which is able to give you excellent eyesight without the use of glasses.

Hygienists were the first to grasp the importance of the discoveries of Dr. Bates. They quickly employed the techniques he recommended, and with good results. Patient after patient has discarded his glasses after using the Bates system of the eye training for a few weeks to a few months. But the oculist and optometrist, those who should be most interested have shown practically no interest in Dr. Bate's discoveries. They continue recommending and fitting eye glasses to their patients in spite of the overwhelming evidence that these are unnecessary if the more natural hygienic measures are employed.

HOW FOOD AFFECTS OUR EYES

Now let us consider the eyes from the standpoint of the newer knowledge of hygiene and the latest discoveries of Dr. Bates. First the matter of nutrition and its relation to eyesight will take our attention. Prior to World War I it was not known that food had any important effect upon the eyes. But when the armies who invaded Belgium took most of the dairy stock, and fresh fruits and vegetables became very scarce many of the Belgians developed hemeralopia, better known as night blindness. Many things were tried to overcome this ailment, but all to no avail. Then came the summer and a new supply of fruits and vegetables, together with more dairy products, and the night blindness soon disappeared. At first this was quite a mystery but now it can easily be explained. The fruits, vegetables and dairy products are good sources of vitamin A. In recent years it has been shown repeatedly in experimental tests that night blindness frequently occurs when vitamin A is lacking in the diet. Of course this vitamin is no cure-all for every eye disease and its lack is not the cause of all eye troubles. Nevertheless, it is of greater importance than any other single element in determining eye health.If you want good eyesight you should refrain from eating those foods which have lost their vitamin A through modern methods of food preparation. Use plenty of green and yellow vegetables, which are among the finest sources of Vitamin A.

The importance of vitamin A has frequently caused nutritionists to overlook the effect of other elements upon the eyes. In reality, the eyes are helped by an abundant supply of all the vitamins and minerals. Deficiencies of calcium, potassium and sodium, in addition to vitamin A, have often produced blindness in animals. Then these elements are added to the diet, and the animals regain their vision. Nursing calves become blind if their mother's diet lacks certain essential vitamins and minerals. In nutritional deficiency diseases such as pellagra we also find that the retina of the eye is inflamed. Dr. Sydenstricker, of the University of Mississippi Medical School, has shown a deficiency of riboflavin in the diet frequently causes dim vision and bloodshot eyes. In addition, it is reported that a lack of riboflavin frequently causes cataract in animals, and it may do the same in man. The eyes of experimental animals also become diseased when vitamin C, vitamin D, paraminobenizoic acid, inosital and certain amino acids are lacking in the diet. These facts should speak for themselves and show you the importance of using foods which have not lost most of their vital elements. You should use only raw foods in your diet, foods which still have the elements the eyes need. Remember that vitamin A is easily lost in the cooking process, that much vitamin C is lost when milk is pasteurized, and that refined grains have lost most or all of their original content of riboflavin. Use natural plant foods if you want good eyesight.

SUNSHINE IS GOOD FOR YOUR EYES

The second great need of the eyes is plenty of sunshine. Fish which live in dark caves, into which no sunlight enters, are blind. Their eyes atrophy and in many cases disappear. Light, especially sunlight, will strengthen the eyes. If you have dark sunglasses, discard them, for they do you more harm than good. Then go outside and let the sun shine on your closed eyelids. Start doing this very gradually; a few minutes or less the first day is enough. Eventually you will be able to let the sun shine on your lids over longer periods of time. Blinking into the sun is also good for the eyes but it should not be overdone. In the beginning stages this blinking should be done in the late afternoon or early morning when the sun's rays are not so strong. If you follow these instructions and give your eyes sunbaths you will soon note that your eyesight is improving and that your eyes are less sensitive to strong lights.

RELAXING THE EYES

The finest known method of relaxing tired, strained eyes is to palm them. Place the cups of your hands over both eyes so as to exclude all light. Then completely relax and try to see nothing except black. At first you may see grey or flashes of other colors. But just keep trying until you see black, black and only black. Try to imagine a black box or some other black object if that will help when they are tired. When cataracts exist palming is especially valuable.

Another method of relaxing tired, strained eyes is to blink often. Whenever you notice the slightest eyestrain blink your eyes about 20 times. Children blink more often than adults do, and this is one factor which accounts for their better eyesight. If you have a serious eye defect you should blink much more often than otherwise. It is especially important to blink frequently while reading. Don't blink so often that it interferes with your reading but simply stop occasionally and blink gently a dozen times or more.

EYE EXERCISES

The use of eye exercises forms the basis of all modern hygienic systems of the eye training. The eyes need exercise just as do the other parts of the body. When this is lacking the muscles and tissues attached to the eyeball become strained and rigid. They are no longer capable of giving efficient service. Then, when a program of eye exercises is employed, the muscles regain their flexibility, suppleness and coordination. There is an increased flow of blood to the eyes, bringing greater amounts of nutritive material; the tissues gain better tone and strength, and recovery is facilitated. The following exercises should be employed by all who have weak eyes. Blink several times between the movements. Blinking will enable you to do more exercises and will keep your eyes from getting sore, especially when you are doing the exercises for the first time.

1. With your middle finger very gently massage the closed eyes in a rotary motion.
2. Alternately close the eyes very tightly and open them as wide as possible. Do this at least 20 times per day. When you squeeze your eyes shut, the tissues around them are exercised, and this does much to prevent the formation of unattractive lines in the surrounding skin. The muscles attached to to the eyeball are also exercised, and the tear glands, which supply an alkaline secretion which keeps the eyes bright and clean, are stimulated.
3. Look upward and then downward as far as you can. Alternate the movement. Do not move the head in doing this exercise; move only the eyeballs.
4. Look to the right and then to the left as far as possible.
5. Look up and to the right, then down and left. Reverse the movement and look up and to the left and down and to the right.
6. Roll the eyes around in a circular motion. Look to the right, down, to the left, upward and then to the right again. Repeat at least 10 times and reverse the direction of the movement.
7. Hold a pencil or similar object about 10 or 11 inches from your eyes. First look at the end of the pencil for a few seconds; then look at some object in the distance. Do this alternately at least a dozen times.
8. Hold some object about 14 inches from your eyes. Then move it in every possible manner--up, down, to the right, to the left, obliquely and in a circular path. Keep your eyes on the moving object all the time but do not move your head. This calls into action all of the six important eye muscles.

GENERAL EYE CARE

Most of the things which optometrists tell us harm the eyes, are really good for them. Reading fine print, reading in a dim light, reading in a moving automobile or streetcar, reading while lying down—all of these have been claimed to weaken the eyes. However, in reality, they do not hurt the eyes at all. You can read all the fine print you wish and it will actually improve your eyesight. You can't gain strong eyes by pampering them. The eyes were made for use and the more they are used, within certain limits, the stronger they will be.

Now we come to the question of glasses. One of the first things most students of eye gymnastics ask is: "Will I be able to discard my glasses?" In most cases the glasses can be discarded; the only exceptions are those individuals whose eyes possess mechanical deformities such as flattened lens. Simple eye ailments such as nearsightedness and farsightedness quickly respond to eye gymnastics. It should be remembered that eyeglasses in themselves never remedy eye troubles. They are simply crutches, and the more they are used the weaker the eyes become. As the eyes weaken the glasses must be changed. The new glasses have stronger lenses and the eyes are correspondingly weakened still further. If the patient lives long enough for this process to be carried to its logical conclusion, blindness is often expected. So if you wear glasses and do not suffer from a mechanical eye defect the first thing to do is to discard them. The longer you wear them the more difficult it will eventually be to bring your eyes back to a normal, healthy condition.

After discarding your glasses begin an eye-training program which includes attention to every hygienic measure that has been proven helpful to the eye. First go on a fast in order to improve the general condition of your body and hence give your eyes a better chance to become healthy. The length of this fast should depend on the condition your eyes are in while being treated. If you have cataracts it will be necessary to undertake a long fast. Other eye troubles do not often call for long fasts. After the fast pay the greatest attention to your diet. Remember to use only uncooked foods which are rich in vitamins and minerals. Give your eyes daily sunbaths, palm them at periodic intervals, blink them as often as you can, and use all of the different eye exercises everyday. By doing this you should notice a distinct improvement in your eyesight within a few weeks to a few months. During the fast there may be some improvement, and as you get well along in your eye gymnastics you will notice that your eyes are stronger than ever. Don't expect miracles. There won't be any. The possession of perfect eyesight does not come overnight. But in the end, if you pursue your work every day, you should gain a set of normal, healthy eyes which require no artificial contrivances of any kind to enable you to see easily and clearly.

CHAPTER 18

Building Strong Feet

The Hygienic Methods of Preserving Foot Health and Correcting Weaknesses of the Feet

In America seven out of ten people suffer from foot ailments. These include fallen arches, club feet, aching feet, bunions, corns, ingrown toenails, burning and itching feet, athlete's foot, blisters and over-lapping toes. Rare indeed is the person who enters an advanced age with strong feet. In nearly every case he has suffered from some sort of foot ailment during most of his life. It is the youngsters who have good feet, and this is true only because years of abuse have not yet ruined them.

We do not find this state of affairs among most primitive people. The South Sea Islanders give us a good example of a primitive group which has preserved perfect feet for centuries. These people never have weak feet, they do not suffer from corns and bunions, they do not have broken arches, they do not have foot deformities, and they do not suffer from burning and itching feet. They know what real foot health is. The South Sea Islanders will run, walk and dance for hours. He runs and walks over the roughest territory with no shoes on, but the soles of his feet are so tough that they act as a cushion, keeping the rocks, small stones, branches, twigs, etc. from bothering him. To his dying day his feet give him efficient service.

These facts need not puzzle us. Foot ailments are not confined to civilized races without reason. Quite obviously, there is something in our mode of living which has a great tendency to destroy foot health. We apparently engage in certain practices which are not in the best interests of the feet. It should be our purpose to find these practices and remove them.

MODERN SHOES AND THE FEET

The chief practice of civilized races which tends to impair the health and strength of the feet is that of wearing shoes. Let us see how this is so. The foot is composed of 26 bones, all of which are normally in their proper positions and nicely adjusted to perform their required functions. They remain in their proper positions and perform these functions when the foot is not placed in a modern shoe. Barefoot walking permits the proper distribution of the body weight from the heel to the ball of the foot, and allows the bones and muscles of the foot to have complete freedom of action. As a result the foot does not become deformed; it does not become weak; nor does it ache and give pain.

When the modern shoe is worn the foot does not fare so well. It is forcibly molded out of line. The normally straight inner line of the feet is pushed inward at the front of the foot. The toes are often squeezed together until they over-lap. The bones are pushed out of their normal positions, and both the bones and muscles of the foot are generally restrained in their freedom of action. All of these misplacements, limitations and strains weaken the foot. They make it susceptible to all sorts of ailments.

The biggest objection to the modern shoe is the high heel. Someone once stated that this heel had been invented by a woman who had been kissed on the forehead. We may doubt the validity of the story but it must be acknowledged that the best interests of the foot were not in mind when the high-heeled shoe was fashioned. The modern shoe, even without the heels, limits the action of the muscles and bones of the foot. With a heel this condition is made much worse. The whole foot is thrown off balance and the body weight is placed on parts of the foot which were not designed to carry it. The general structure of the modern shoe, together with the heel (especially the high heel), creates the greatest percentage of existing foot troubles.

The modern shoe has properly been termed a "sweat box". The shoes which are most deserving of this title are those which reach up around the ankle, water-proofed shoes, patent-leather shoes, and shoes made largely of rubber and rubberized material. All of these prevent the absorption and evaporation of perspiration. The offensive odor of the canvas shoe with rubber insoles, which are often worn by athletes, is due to the collection of perspiration in the shoe. Normally it would evaporate but the rubber insole and tight covering of the shoe around the foot prevents this. The disease called the athletes foot has been so named because athletes were the first to be afflicted with it to a great extent. The fact that they wear rubberized canvas shoes more than anyone else is largely responsible for their high susceptibility to this disease.

It should be apparent from all of these facts that civilized man has created his foot ailments. He has done this by placing his feet in shoes which continually prevent all of the bones and muscles from functioning as they should. On the other hand, the primitive remains free from foot ailments because he wears no shoes. He goes barefooted throughout his life and at the same time receives maximum service from his feet.

The feet will always remain in the best condition if no footwear of any kind is worn. For optimum foot health you should go barefooted at every opportunity. Go to the beach where you can indulge in walking barefooted without breaking social customs. Or, if you have the courage to break such customs, go barefooted throughout much of the day while attending to your regular duties. If you don't mind what your next door neighbors think go out in you backyard and walk about the ground for at least 20 minutes each day. When you are in your own home you have a golden opportunity to go barefooted. Remember this: the more barefooted walking you do, the better and stronger your feet will be. Barefoot walking and running are two of the finest exercises. They give the bones and muscles of the feet the action they need, and will do much to counteract the bad effect of wearing modern shoes when your social activities demand such.

THE FINEST FOOTWEAR

Though all shoes are undesirable from the standpoint of foot health, some are less so than others. If you spend much of your time in the public eye where barefoot walking would be pointed to as an absurdity, buy a pair of sandals or moccasins for your feet. It would also be a good idea to do this if you work under conditions which call for protection of the feet. Many kinds of work, especially those of modern industries, call for such protection. Except in rare cases sandals and moccasins will afford the feet all of the protection they need. The graceful Grecian sandals are ideal and do not greatly interfere with the movements of the bones of the feet. When you get these sandals remember to get them with the lowest possible heel. The best moccasins to buy are the old fashioned Indian moccasins. These do not have any heel at all and are made of a sole that has the same flexibility as the upper part of the shoe. Another moccasin which might be mentioned is that which is now commonly worn by teen-agers. It is much heavier than the Indian moccasin, has a low heel, and is made with a less flexible sole. It is inferior to the Indian moccasin but it is much better than an ordinary shoe. It should appeal to you if you do not want to depart too far from the established social customs. In buying shoes remember that the more freedom of foot movement they allow, the better they are.

EXERCISE YOUR FEET

If your feet are not up to par you should use special exercises to strengthen them. These are not required by the person who has perfect feet and does not wear modern shoes. But most of us do wear modern shoes at one time or another and need some special exercises to counteract their effects. Simply barefoot walking and running will do this to a great extent, but for the strongest feet we need even more than that. We need exercises which call into play the greatest number of foot muscles and give these plenty of quick, concentrated activity. In practically every case of foot weakness the feet are starved for lack of exercise. When they are given a certain amount of concentrated activity each day they often regain their normal strength and no longer produce discomfort. The following foot exercises may be taken in your own room with little or no inconvenience.

1. Stand on a rolling pin, supporting yourself with the arch, for a few moments. Then do the same with the other foot and continue alternating back and forth from foot to foot.
2. Using a wooden block or a book which is from two to four inches high, stand on it so that the forward

parts of the feet extend over the edge. The forward part of the block should reach just to the forward part of the ankle. In this position, lower and raise the toes. Make a special effort to carry each toe as far down and as far up as you can. In some of the exercises move the small toes down lower and up higher than the big toe. This will call into play more of the foot muscles.

3. Keeping the feet in the same position on the block as in exercise 2, rotate the forward part of the feet. Alternate the direction of the circular movement quite often. This will do much to strengthen the feet and is especially good for weak arches.
4. Stand on the block so that the edge is slightly forward of the center of the arches with the anterior portion of the feet extending over the edge. Rise up on the toes, then lower the heels as far as possible. Besides being good for the foot muscles this exercise strengthens the calf muscles which in turn exert some influence over the feet.
5. Walk on your toes for a few minutes. First walk forward for a while, then walk backward. In doing this exercise it is also well to point the toes in and the heels out for several movements. Then do the opposite and point the toes out and bring the heels together.
6. Walk on the outer margins, then on the inner margins of the feet.
7. Walk on the heels.
8. Pick up marbles or a handkerchief with the toes.
9. Sitting on a chair or on the edge of a bed, extend your legs in front of you in a horizontal position. Bend the toes downward as far as possible toward the soles of the feet. Then raise the toes as high as you can toward the instep. In doing these movements be sure to let the toes spread as much as you can. This will do much to strengthen the metatarsal arch.
10. While in the sitting position with the legs extended, bend each foot inward and then outward as far as possible.
11. While standing on one leg extend the other at a 45° or 90° angle. Stretch the leg, foot and toes as much as you can. Then do the same with the other leg.

12. Assume the sitting position; place the feet on the floor with the heels close together. Extend the forward parts of the feet outward and raise them above the floor. Then place your hands on the inner side of the balls of the feet and push outward as hard as possible. At the same time, press inward with the balls of the feet against the resistance of the hands.
13. While in the position described in the preceding exercises, place your hands against the outer sides of the balls of the feet and press inward. At the same time, press outward with the forward part of the feet against the pressure of the hands.
14. While in the position assumed in exercises 12 and 13, place the inner edges of the feet together. Rotate first one foot and then the other as you resist the movement with the opposite foot.

FOOT AILMENTS

One of the most common forms of foot trouble is fallen arches (sometimes called flat feet). This condition occurs when the muscles and ligaments supporting the feet are weakened. The feet turn inward at the ankle and downward at the instep. As a result the victim goes through much discomfort. His heels and arches ache and burn; his feet hurt after walking just short distances; his ankles frequently become weak, and often his back, hips and thighs give him trouble.

Fallen arches can usually be corrected, but not without the greatest possible use of all types of foot exercises. If your arches give you trouble, use the exercises every day without fail and have a chiropodist make a special arch support for your shoe or fasten about your feet special strips of adhesive tape which will support the arch. No ordinary arch support shoes can help you. Such shoes seldom support the arches at all and are not individually made for each foot. The flat foot requires individual treatment. It requires a support which is designed specifically for it alone.

Corns and callouses of the feet result from wearing improper footwear. They form as a result of pressure and irritation and act as a protection against this. They may be removed by soaking the feet in very hot water at regular intervals and by discontinuing the use of modern types of dress and work shoes. To relieve the tender spot from pressure wear a padding around each corn. Make it from a small, round piece of buckskin with a hole cut in the middle so the pressure will fall on the flesh around the corn instead of directly on it. After you soak your feet try to remove the corn if it is loosened and softened sufficiently, and rub the callouses with a pumice stone. Do not continue soaking the feet after your corns and callouses have been removed and your feet restored to a healthy condition. The hot baths are necessary for temporary periods to permit removal of the corns and callouses, but if taken over a long period of time they will weaken the feet.

Ingrowing toenails are the result of wearing shoes which press against the skin and flesh just next to the toenail. The edge of the toenail is pushed down into the flesh, producing much pain. The remedy calls for elimination of the standard modern foot wear and the use of cotton padding between the skin and toenail.

Burning and itching of the feet are usually caused by the use of footwear which does not permit the evaporation of perspiration. It is also occasionally caused by a general condition of impaired health which lowers resistance to skin diseases. The solution simply involves a general health-building program, together with the use of light footwear (preferably perforated) and frequent periods of going barefooted. The condition is quickly remedied if these measures are taken.

Other painful foot ailments are enlarged joints and bunions. They are due to the use of footwear which causes too much pressure on some parts of the feet. The requirement for recovery is the use of shoes which allow the feet the greatest possible freedom of movement. Special attention should be given to the big toe to see that it is given plenty of room. Then, a device made of soft rubber should be worn to straighten the crooked toe.

It can be seen that the real solution to practically all foot troubles lie in the adoption of certain simple hygienic practices. If you still have good feet, stop abusing them so that you will never have to search for solutions and remedies in the future. Prevention of foot troubles is the important thing. Give your feet the proper care so they will remain strong and healthy as long as you live. Take a lesson from the primitives and wear shoes as little as possible. When social customs call for some footwear use the kind which harm the feet the least. If you do this you will never be bothered with the multitude of foot ailments which afflict most civilized people. You will be in possession of feet which give you excellent service at all times, feet which never torment you with their aches and pains.

CHAPTER 19

Keep Your Hair

Preventing Baldness Through the Use of Sunshine and Natural Foods

Biologists, in looking to the world of the future, picture our descendents as people with completely bald heads and small, weak bodies. They do this on the assumption that we will continue our present course of degeneration. There can be little doubt but what the loss of hair is a chief sign of such degeneration, and that it is becoming more common year by year. If this trend is carried to its logical conclusion, our descendents may well be a race of bald-headed men, and perhaps bald-headed women also. These will not be our immediate descendents, but rather those living in a distant age.

The fact that baldness is common only among civilized races who use devitalized foodstuffs should dismiss any ideas about the loss of hair being normal to healthy persons. Generally speaking, the best physical specimens are those who possess the most hair. This is true both of individuals and entire races. It does not necessarily follow that good health is a sure preventive of baldness but it is true that this is usually the case. In rare instances healthy individuals following a hygienic mode of living lose their hair. The reason for this is at present unknown. However, this does not alter the fundamental fact that good health and a good, heavy growth of hair are usually allied.

SUNSHINE HELPS TO PREVENT BALDNESS

Sunshine, both natural and artificial, is of proven value in treating scalp disorders which involve loss of hair. This was shown as early as the nineteenth century by Dr. Nagelschmidt of Berlin, Germany. This doctor used a quartz sun lamp in about 200 cases of baldness. He reported that 129 of the cases were remedied, 79 were improved, and 11 were not helped at all. It is to be noted, however, that 43 of the patients withdrew after one treatment. Of those who underwent the full set of treatments 82.5 per cent were completely remedied. At first these statistics may appear a bit startling. However, Dr. Nagelschmidt is considered a reliable authority and published photographs of many of his patients before and after treatment to show that his method accomplished the desired results.

Dr. Lorand, author of *Old Age Deferred*, also reports success in treating baldness with the quartz lamp, and he claims that natural sunshine is also effective. In his own case he noticed a new growth of hair after exposure of the scalp to the quartz lamp and natural sunshine. He further indicates that, judging from his observations at Rollier's sunbathing institute in Switzerland, even though the scalp is not exposed directly to the sun, if the rest of the body is exposed, hair growth is increased. The experiences of Dr. Nagelschmidt and Dr. Lorand are similar to those of other observers who have had experience in treating baldness with natural and artificial sunshine.

The effects of sunshine upon hair growth should indicate the advisability of not wearing a hat during the summer months when the hair and scalp may be exposed to the rays of the sun. It is also well to refrain from wearing hats for another reason, this being that the tight band of the hat may partially prevent the circulation of the blood to the scalp. But the importance of not wearing hats should not be overestimated. Hats are not the primary cause of baldness. They are only a contributory cause.

CUTTING AND WASHING THE HAIR

It is quite possible that the length of the hair may influence the rate of its loss. It is a common opinion that short haircuts are a preventive of baldness and create a thicker growth of hair. Many have seemingly saved their hair by getting it cut very short, clipped or shaved off. However, there is as much evidence which indicates that it is best to let the hair grow long and allow it to remain long. Experiments have shown that long hair grows more rapidly than short hair, that is, after the short period of stimulated growth following the short hair cut has passed. Likewise, it is true that women preserve their hair longer than do men, and it may be that this is partly due to the fact that they do not wear it so short. After all facts are considered, one can come to no conclusion as to the advisability of long or short hair. There is too much evidence on both sides. This is a question which future experiments must answer.

There is also much debate as to how often the hair should be washed. Old men with a thick growth of hair often claim that they have kept their hair because thev haven't washed it more than once in each decade. Then along come men with an equally heavy growth of hair who tell us that they have prevented baldness by washing their hair every day. No one really knows how often the hair should be washed. No one knows if washing the hair has anything to do with its rate of loss. However, from a strictly hygienic viewpoint, it is difficult to understand how cleanliness of the scalp and hair could cause baldness. If cleanliness does produce baldness, it is the only case in which the filth would be conducive to better health. In the absence of more complete information it would be the wisest policy to keep the hair scalp as clean as the other parts of the body.

SCALP TREATMENTS

Scalp authorities are now the vogue in America. They claim to have discovered the cause of baldness and insist that they can prevent and remedy it. Their preventives and remedies include hot applications, vigorous massage, the application of various salves and ointments, electrical treatments of various kinds, and occasionally the use of the quartz sun lamp. The hot applications and massages are designed to increase the flow of blood to the scalp. The salves are said to have special healing qualities, although it has never been made clear just what they are. The ointments are usually composed chiefly of alcohol and contain supposedly antiseptic solutions which destroy the undiscovered baldness germ (probably none exists). Perhaps the only measure of proven value used by the scalp specialists is the quartz lamp. And this is used so seldom and for such a short period of time, that it cannot help much. A method of preserving the hair has recently become popular in California as a result of some clever advertising. It consists of injecting some sort of fatty material underneath the scalp to replace that which has supposedly been lost. It is the loss of this material in the first place which is said to be the primary cause of baldness. As people often lose their hair without losing this layer of fat, its loss (if it even occurs) cannot be considered the primary cause of baldness.

Considered as a whole, the various scalp treatments given by scalp specialists are not nearly as effective as they are claimed to be. In rare cases they are of value; in most cases they are neither helpful nor harmful, and in a few instances they may actually speed the loss of hair. Then too, scalp treatments can hardly be called a wise financial investment, for the only effective portion of these treatments can be performed very easily in one's own home at little or no inconvenience. These include the sun treatments and possibly the kneading of the scalp. Pulling the hair and applications of hot towels may also be of some value.

Baldness will no doubt become quite rare when people replace the refined, devitalized foods of civilization with natural, uncooked foods, and when they cease hiding their hair and scalp from the rays of the sun. At that time men may well preserve their hair to the extent that women do now. And scalp specialists and scalp treatments will gradually fall into disfavor. Most hair difficulties will end, and with them will end the unpleasant visions of the biologists who foresee a future of bald-headed men and women.

CHAPTER 20

The Needs of Infants and Growing Children

How to Give Youngsters a Start in Life that will Enable Them to Reach Maturity in a Condition of Optimum Health

Throughout the entire wild kingdom, animals rear their young with a reasonable certainty that they will arrive at maturity without sickness of any kind. But civilized human beings do not fare nearly so well. They rear their young in a manner which virtually assures their arrival at maturity in a condition of disease and physical unfitness. Their form of infant care has induced an unusually high rate of infant mortality. Even at so late a period as the nineteenth century an average of one out of every two children in Europe died before reaching the age of five years. Only one in every four managed to reach the age of twenty-five. Today things are a little better. Most of us do manage to reach maturity. However, the infant and child mortality rate, as well as the infant and child disease rate, is still much higher than it need be. It remains well above that of many primitive groups.

Of course parents cannot be blamed for this state of affairs--for they usually know almost nothing about the proper manner of caring for their children. Their advice comes chiefly from the advertisments of the radio, newspaper and magazine, and from doctors whose basic knowledge consists chiefly of superstitions which have been carried down the centuries of medical practice to the present day. The mother wants to care for her child properly. Only in rare cases does she willfully neglect it. But her lack of knowledge permits the child to become sick. As most of the advice and information she receives is founded upon medical philosophy and commercial advertising, her failure to rear healthy children is to be expected. The important thing, then, is education. Parents must be instructed how to care for their children properly. They must be given information which is based exclusively upon the knowledge of science. It will be well here to discuss the most important part of this information.

INFANT CARE BEGINS BEFORE BIRTH

The care of the infant begins before its birth, for the physical condition of both the father and mother before conception has much to do with the physical condition of the newborn child. If they are healthy the infant will more than likely be healthy. On the other hand, if they have lived for years upon refined, modernized foods and possess only average health , the infant will be born with at least one strike against it. If you desire a healthy child watch carefully your mode of living before conception and make sure that your mate does the same.

After conception, during the pre-natal period, the mode of living of the mother is also very important. During this period the unborn infant is totally dependent upon the mother for its nourishment. If building materials are lacking they will be leeched from the mother's tissues, but even this abnormal supply is strictly limited. Good living habits of the mother insure good, healthy tissues of the infant. They do not insure the birth of a perfect child in every detail if the mode of living before conception was neglected, but neither can good preconception habits create a perfect child if the mother lives in an objectionable manner while pregnant. The pregnant mother should get plenty of sunshine, which is essential for the normal growth of the bone and tooth structure of the infant. She may indulge in mild exercise but should avoid strenuous exercises. Often the mother's normal working activities provide all the exercise she needs. In the advanced period of pregnancy all exercise should be used with caution. The pregnant mother should not fast unless acute disease exists, and even then the fast should be of short duration. The diet should be rich in vitamins and minerals. Refined foods, which have lost the greater portion of their vitamin-mineral content, should be avoided. The raw fruitarian diet is ideal during pregnancy just as it is at other times.

If these instructions for pre-conception and pre-natal living are followed, the birth of the infant should take place with little or no pain or difficulty, and you should be able to resume your normal activities fairly soon afterward. During the first two or three days after birth there is no real secretion of milk, but instead the breasts offer a secretion called colostrum. This will serve the needs of the infant until a regular supply of milk arrives, as the newborn infant experiences very little hunger until nature provides the regular milk supply, and during this short period it is often satisfied with only water. If the baby shows no desire for the colostrum give it water until there is a regular supply of milk.

NURSE YOUR BABY

Contrary to popular opinion, breast-fed infants possess much better health than do others. They show a much lower death rate than do bottle-fed babies, and their resistance to infectious disease is also much higher. This was shown quite conclusively by the experience of the Infant Welfare Centre of Chicago between the years 1924-29, during which time 20,061 infants were cared for. Of these 48.5 per cent were breast-fed, 43 per cent were partially breast-fed, and 8.5 per cent were wholly artificially fed. The mortality rate of the partially breast-fed infants was nearly four times as high as that of the infants which were wholly breast-fed. The artificially fed infants made an even poorer record. Their mortality rate was fully fifty-six times greater than that of the breast-fed infants. Furthermore, only four of the 9,749 breast-fed infants died of respiratory infections, whereas eighty-two of the 1,707 artificially fed infants died from this cause. This is but one of many similar examples which could be offered. Cow's milk is obviously not as good a substitute for mother's milk as it is reputed to be. It's composition varies considerably from mother's milk and does not appear to meet all of the needs of the infant. If you are really interested in the health of your child you will nurse it regularly. Breast-feeding is the first essential of the hygienic care of infants.

Whenever possible, the nursing period should last for at least 20 to 24 months. It takes this long for the baby's teeth to become developed sufficiently to chew solid foods, and until they are so developed a strictly liquid diet consisting chiefly of milk is called for. Two weeks after birth fruit and vegetables juices may be added to its diet. Use fresh, uncooked juices in preference to the canned juices and use them in as great a variety as possible. Don't confine them to just orange or tomato juice as most mothers do, but include grape, prune, melon, apple and berry juice and whatever others you can obtain. Use the vegetable juices in moderation and mix them together frequently to add to their palatability. Carrot juice is one of the best vegetable juices for infants, as it is an excellent source of vitamin A. Most infants like a mixture of carrot, spinach, celery and parsley juice, and this may be given to the baby quite frequently. However, always be careful to use such strong juices, as those of parsley and onions, in very small amounts. By nursing your baby and supplying it with the fruit and vegetable juices mentioned you will be giving it all the nutritious materials it requires. The baby fed upon mother's milk and fruit and vegetable juices receives the perfect diet which will produce the highest possible state of health.

Many object that they cannot nurse their babies for 20 to 24 months. This is entirely unnatural they say. It may appear to be so, judging from the experiences of civilized women, but when we observe primitive and semi-primitive races we find that the long nursing period is very common. The Egyptian women frequently nurse their children from three to four years, and there are records available which indicate that this practice has been in existence for thousands of years. The early North American Indians nursed their babies for two or three years, and the Guiana Indians of South America employed a three to four year nursing period. Most of the Chinese mothers nurse their children for two to five years. Considering primitive races as a whole, we find that the three year nursing period is most common. This is very difficult for civilized mothers to understand. If they are able to nurse their babies for six months they feel they are doing well. The secret lies in the diet employed by primitive mothers. Instead of using refined foods they use natural foods which contain an abundance of the vitamins and minerals needed by the nursing mother. If you want to nurse your child for the recommended length of time, you should use foods which are highly nutritious. Adhere to the raw fruitarian diet as closely as possible. In addition, make sure that the breasts are completely emptied at each nursing. If this is not done the supply of milk will diminish no matter what you eat.

Do not hesitate to nurse your child after its teeth are developed if you wish. The 20 to 24 month period represents the absolute minimum time a baby should be nursed or given other milk. The ideal nursing period is probably longer than that and may well extend to three or four years if the mother's milk supply lasts that long.

Besides helping insure an adequate supply of milk, a good diet improves the quality of the milk. Such foods as coffee, tea, cocoa, white rice, salt and white bread tend to lower its value and render it deficient in many vitamins and minerals which the infant requires. In all animals the nutritious value of the milk corresponds to the nutritious value of the foods eaten by the nursing mother. It is likewise true that any toxic elements present in their food, and also many drugs, frequently find their way into the mother's milk. To insure a good supply of milk for your baby you must obey all of the rules of hygiene. It is especially important that you use the best food and abstain from all drugs and other materials which give a toxic reaction in the body.

If, in spite of the correct application of all hygienic measures, you cannot supply your child with breast milk, or if your career or daily activities do not permit nursing, employ a wet nurse. The wet nurse may be of any color or race but she should be healthy. A hospital or maternity home often can supply wet nurses; or an advertisement in a newspaper occasionally gets results. However, if no wet nurse can be obtained or if you do not care to employ one, you may give your infant cow's milk or goat's milk. Such milk is of an inferior type for infants but is much better than no milk at all. In using cow's milk or goat's milk try to obtain it in its raw state. If this cannot by done use the pasteurized milk. During the first six months of the infant's life, dilute the milk with an equal amount of water. After this, dilute the milk to the proportions of twice as much milk as water.

OTHER DIETARY ADVICE

It is common practice to give infants starchy foods very early in life. But this is not to be recommended: they experience much trouble digesting starches. The saliva of the infant under two years of age contains just a slight trace of ptyalin, the enzyme which takes care of the first stage of starch digestion. The lack of ptyalin in the saliva shows quite clearly that it is distinctly unnatural to feed infants the high-starch foods. In addition to being partly indigestible, starchy foods generally require some chewing, and this is something which the toothless infant is hardly capable of doing. If you want to give your baby starchy foods such as whole grain cereals, wait until it is at least two years old.

Now comes the question of how much and how often to feed your baby. This has been a matter of much controversy among doctors. Most advise six to eight milk feedings a day, but this usually involves the ingestion of an excess of food. Three feedings of milk and about two feedings of fruit and vegetable juices is adequate for most youngsters. There are exceptions of course; some babies require more food than others. However, there is far more danger involved in over-feeding than in under-feeding. One important rule is that your infant should never be fed in the absence of real hunger. Forced feeding is no doubt responsible for no small number of diseases in infants. When there is a need for food nature calls for it through the instrument of the sense of hunger.

The use of cod liver oil and artificial infant foods is very common today but it has nothing to commend it. Your infant will get all of the vitamin A and D it requires if you feed it properly and give it sunbaths. Cod liver oil is not needed to supply these elements and will do more harm than good. Artificial infant foods are usually lacking in a good supply of vitamins and minerals and are far from being desirable in any diet. The closer you adhere to the diet of milk and fruit and vegetable juices for your infant, the healthier it will be. The less specially manufactured baby foods the baby is given, the higher will be its resistance to all types of disease. There is no substitute for natural foods in either the ideal adult's diet or the ideal infant's diet.

It is the general medical opinion that the teething process in infants renders them susceptible to various physical disorders. They are said to be especially prone to develop intestinal disturbances during this period. No doubt these opinions are founded upon observation of infants which are fed in the conventional manner. Infants so fed often develop quite an array of diseases whether they are teething or not. But the properly fed infant is not sick during the teething period nor at other times. Primitive children which are fed upon mother's milk and unrefined foods practically never die from teething, although it is held by doctors that modern children often do. The solution is to give your infant the right kinds of food. Then it will go through the teething period with no appreciable signs of discomfort.

BABIES' GENERAL CARE

The general hygienic care of an infant is really very simple. It involves chiefly, proper attention to fresh air, sunshine and cleanliness. Place the infant in as natural an environment as possible. Don't wrap it in heavy clothes during warm weather; don't keep it out of the sunshine; don't scrub its tender skin with antiseptic soaps; don't keep it in a hot, stuffy room. The less the baby wears in warm weather, the better. And as for fresh air, the more it gets, the better. Your baby can't be given too much fresh air in the summer months, though when the weather is very cold it should not be allowed to become chilled. The skin of the baby should be kept clean at all times, and plain water is usually the only cleansing agent needed. Soap may be used occasionally when the skin cannot be completely cleaned with water, but soap tends to irritate the skin of many babies. It should not be used too often. Sunshine will do much for your baby. Start out with five minutes a day and gradually increase the length of the period of exposure. With the application of these measures and the use of a correct diet, your baby will possess a high state of vitality and health.

It is regrettable that most male babies are circumcised. Circumcision had its beginning as a religious ceremonial. It is still a superstitious rite of many African tribes. The scientific value of circumcision is really non-existent. It supposedly lowers one's susceptibility to venereal diseases, but one is at a loss to find any evidence which indicates that it does this. As circumcision involves a surgical operation, it is quite a shock to the delicate nervous system of the infant. An anesthetic may prevent this but its depressing effects upon the nervous system are, in the final analysis, still more detrimental to the infant's health. There is really no good excuse for circumcision. You will be wise if you do not allow your infant to become a victim of this operation.. He will not be benefited by it and may be harmed in many ways.

THE GROWING CHILD

The care of the child after the age of two years is almost as important as his earlier care. The growing child needs plenty of fresh air and sunshine, just as does the infant. In addition, he should have lots of exercise and should be allowed to play outdoor games every day. Regarding the diet of the growing child, this should be as natural as possible. Most children are given candies, ice cream, pickles, white crackers, cookies and white bread sandwiches whenever they desire them. They often piece between meals upon foods which supply little real nourishment. As a result these children often become ill with any number of diseases. Almost none pass through an entire year without some acute disease. Whooping cough, measles, scarlet fever, diphtheria, pneumonia, and mumps— these are all common diseases of children not because of their supposedly contagious qualities, but because of the manner in which the children are fed.

If you want to preserve the health of your child and permit it to attain adulthood in excellent physical condition, keep away from conventional feeding practices. Above all do not give your child a quart of pasteurized mik and a serving of cooked meat each day as is commonly recommended. The refined cereals so often advertised for children should be avoided at all times. Children thrive best on a diet which contains no foods which have been removed to an appreciable extent from the form in which nature produced them. They well can use the same uncooked diet which has been recommended for adults. Give your child two or three wholesome meals each day, and if it is hungry betwen meals give it some fresh fruits or vegetables to munch on rather than the customary crackers, white bread, and cookies. By doing this you will be giving your child a great advantage in life, one which is based upon a condition of health which is far above average.

The really healthy child is full of energy. It continually wants to play and romp about. Its eyes are bright; its skin is clear and radiant, denoting good health; its features are well formed and it is free from both chronic and acute disease.

Such a child can be your child. You can be instrumental in molding the life of your child into a perfect pattern. To do this, you must make a practical application of our present knowledge of hygiene. This calls for no complicated procedures but only the simple supervision of your child's diet, and the use of other health measures. The hygienic care of your child will repay you many-fold in the pleasure you will gain from your work. After all, the mother's greatest treasure is usually her children, and the things which are done for them are not done in vain. There is nothing small or insignificant about the creation and molding of a life which presents the hygienic ideal, perfection of mind and body.

CHAPTER 21

To Build Beauty You Must Build Health

The Hygienic Road to Beauty of Face and Figure

We have seen that the ancient Greeks were ardent lovers of physical exercise. They were also lovers of beauty, and doubtless one reason they exercised their bodies as much as they did was to gain greater beauty. The Greek Ideal was perfection of mind and body, and beauty was a necessary part of such perfection. The Greeks were no doubt a far more beautiful race than we are. They may have strove throughout their lives to duplicate the works of art and sculpture which were common in ancient Greece. These works were chiefly examples of natural beauty.

As physical culture fell in disfavor with the advent of the medieval ages, so beauty also fell to a low standard. The Christians of the period continually ridiculed beauty. As irrational asceticism gained power, so the power of beauty lessened. Clement of Alexandria expressed the medieval viewpoint when, in regard to woman, he declared: "Let her be entirely covered, unless she happens to be at home. For that style of dress is grave, and protects her from being gazed at. And she will never fall who puts before her face modesty and a shawl; nor will she invite another to fall into sin by uncovering her face." Tertullian agreed with Clement in his statement that "Natural grace must be obliterated by concealment and negligence, as being dangerous to the glance of the beholder's eyes." However, even this dogma of total natural depravity was not capable of making the populace prefer physical disfigurement to natural beauty. The desire for beauty seems to be an instinctive trait of everyone, a trait which no amount of propaganda or asceticism is able to eradicate. Men will always strive to gain the love of beautiful women and women will always be charmed by the features of handsome men. But beauty is associated with more than sex. Under any conditions, good form, grace and symmetry are things to be admired.

In America as well as most other civilized nations beauty is quite rare. Whether we like to admit it or not, only the minority of our population are truly beautiful. The majority have facial disfigurements of some kind, as well as deformities of the rest of the body. Overweight, underweight, baldness, blotched complexions, protruding abdomens, stooped posture, skinny legs, overdeveloped breasts, underdeveloped breasts, eye deformities, dental deformities and facial expressions denoting ill health—all these are common in civilized lands and all detract from beauty. Complete freedom from such defects is almost unknown.

In addition to the rarity of beauty in the first place, we have the existence of premature old age which causes the destruction of whatever beauty may have formerly existed. A girl in her late teens has about her a certain freshness and bloom which rapidly disappear in her later years. By the time she is 30 years of age the glow is gone from her cheeks, the brightness from her eyes. No longer is there a spring in her step, her formerly beautiful hair may be greying, her teeth are often stained or many of them are missing. In short, much of her beauty has been lost. Beauty possesses but a short life in civilized nations. If it survives 10 years after maturity has been reached it has done well.

LEARN FROM THE PRIMITIVES

Among those primitive races which do not use modernized food beauty is retained much longer. What's more, the standard of beauty of the primitive is much higher than that of civilized groups. The healthiest primitives, those which have always adhered to a diet of unrefined foods, generally possess few, if any, facial of bodily deformities. They usually do not have pinched nostrils, undersized and oversized jawbones, deformed dental arches, missing teeth, cross-eyes, underdeveloped bodies and other features and qualities which tend to detract from beauty. But this is true of only those who use no refined foods. The primitives who use white bread, white sugar, refined rice, coffee, tea and refined cereals are fully as susceptible to deformities as are civilized races.

The experience of the primitives should teach us an important lesson. They should show us the great importance of adhering to a proper diet if we are to create beauty. Physical disfigurement is really a disease, a disease which is easily preventable. The experiences of the healthiest primitives also indicate that the early loss of beauty, common among civilized people, can be prevented. The Hunza of India are a good example of a race which does not lose its beauty at an early age. Follow the example of the primitive if you want to preserve your beauty. Live a hygienic life and shun the refined foods of civilization as you would shun poison. Remineralize and revitaminize your body with an abundance of uncooked fruits, vegetables and nuts.

Though whatever beauty you now possess can easily be preserved over an extended period of time, little can be done to remove the deformities which have existed since birth. The plastic surgeon is often of some value but even work he can do has great limitations. However, not everyone is so greatly deformed as to place serious restrictions on their lives. Most people possess enough inherited beauty to live useful, happy lives if they will but enrich the beauty they do possess. This adds to the appearance of everyone. The woman with perfect features has little to offer if her vitality is at a low ebb and if her eyes show the effects of ill health. On the other hand, the woman with some slight physical defect can be quite attractive if she presents a picture of superb health, with clear sparkling eyes, a smooth, velvety complexion and an abundance of vitality. You can do much for your appearance if you will build health. You may be able to add to the beauty which you now possess.

YOUR CHILDREN'S BEAUTY

Don't be concerned with only your beauty. If you have children, give them the foods which will add to their beauty, and if you expect to be the father or mother of children in the future always adhere to a hygienic mode of living. Your children will be less likely to have physical deformities if they possess a good heredity--that is, if you will but live properly in the years prior to conception and birth. It is especially important that a proper mode of living be adopted during pregnancy, for during this period the food eaten by the expectant mother has a great affect upon the baby. Even perfect heredity will mean little if a diet of devitalized foods is used during pregnancy. Of course, in some cases infants with relatively perfect features are born of parents who live in the most unhygienic manner. But why leave this all to chance when you can insure the birth of beautiful children simply by obeying some simple rules of hygiene? And remember that these incude more than dietary rules. Sunbathing is also important as it supplies vitamin D which is especially needed by the pregnant woman.

WATCH YOUR WEIGHT

Probably a chief cause of a lack of beauty is overweight. It is literally impossible to possess any great degree of beauty if you have allowed heavy rolls of fat to cover your frame. The overweight person is unhealthy. He not only is disfigured because of the excess fat, but he fails to present a picture of good vitality because of his impaired health. He generally looks many years older than he really is.

Now if you are overweight it is because you have eaten too many of the wrong kinds of foods. Your doctor may have told you that it is due to glandular deficiencies, but remember that the causes of overweight and these glandular deficiencies are similar. No doubt many overweight people have glandular troubles, but these do not create the excess of weight any more than the excess of weight produces the glandular troubles. Forget gland medicines and drugs of all kinds if you want to lose weight. It is possible that you can drug your way to a good figure but you may ruin your health in doing so. There is only one way to reduce scientifically and that is the hygienic way.

It is the particular vogue among doctors and certain nutritionists to recommend low calorie diets for those who are overweight. The patients are told to eat whatever they wish but to watch their calorie intake. The highly concentrated foods such as meat, eggs, nuts, etc., are allowed if they do not raise the calorie intake over a certain figure, this generally being set at somewhere between 1,000 and 2,000 calories per day. Now it is quite certain that you can reduce on these calorie diets but you will have a hard time doing it, and a long time will elapse before your weight is down to the desired figure. The fast way to reduce involves far more than watching your calories. It consistsof eliminating all of the high-protein, high-carbohydrate, high-fat foods from your diet. What you need is an elimination diet of juicy fruits and non-starchy vegetables. Or if you wish to lose even faster, cut out the vegetables and use only juicy fruits. And while you are on the elimination diet you don't have to watch your calories, although it is well to undereat rather than overeat. The less eaten the more rapid will be the loss of weight. The average overweight person loses from one to three pounds of weight per week on the elimination diet, and a few lose even more than that.

However, many will not be satisfied with losing just a few pounds of weight per week, and they must fast. During the fast weight is lost more rapidly; usually about a pound a day disappears. Within a month or two many people who are literally covered with heavy rolls of fat can attain good figures by fasting. Fasting is not only the most rapid method of reducing; it is also one of the safest methods.

In any reducing plan exercise is good, but unless it is combined with other measures it may be of little value. People have tried to exercise themselves to good figures for years and many have actually gained weight trying. Exercise must be combined with proper nutrition if it is to be of value in losing weight. A combination of the elimination diet and exercise is quite effective.

Just as undesirable as an excess of flesh is the deficiency of flesh found in the underweight person. The skinny individual is not beautiful. To be beautiful you must have your frame covered with firm, healthy flesh. You don't need rolls of fat; you need just enough flesh to cover the body frame so as to give a good, healthy appearance. There is nothing like being normal as far as weight is concerned.

However, the normal weight of the healthy person is not to be confused with the weight of the average person. The average individuals used in determining what is a normal weight are not healthy. We cannot arrive at what constitutes a proper weight by taking a group of poorly nourished people and averaging all of their weights. So don't bother about weight charts in deciding how much you should weigh. What you want is beauty, a well-rounded and well-formed figure. This may be well below the average weight of people your height and age, or it may be well above average. The question of weight is an individual one and should always be regarded as such. However, it may be mentioned here that the ideal weight, may, more often than not, tend to be below average. We know that the lowest mortality rate is among those who are 20 pounds below average weight. And among healthy animals we generally find that they do not have an ounce of superflous weight on their bodies. The hunting dog and the race horse are at their best condition when you can count their ribs.

The conventional methods of gaining weight involve over-eating and the use of many highly concentrated foods, such as cream, olive oil, meat, nuts and eggs. That this method often produces a gain in weight need not be questioned. But it does not produce firm, healthy flesh. It is better to remain thin than to overload your body with an excess of high-protein and high-carbohydrate foods which produce plenty of fat. The hygienic way to gain weight is to first build health. When you do this your weight will take care of itself.

The first thing you must do if you are skinny and under developed is to fast. This may sound illogical at first, but it is the only really scientific thing to do. In order to assimilate your food in an efficient manner you need a clean foundation upon which to work. You can gain this by fasting. All of the good food in the world will not help you if you cannot assimilate it, and most underweight people do not assimilate their food well. Many who have been unable to gain a pound in years, have, after a fast, gained weight rapidly until they were well developed.

The uncooked diet should be employed in all cases. It should contain liberal amounts of green leafy vegetables, nuts, nut milk and jelly coconuts (if the latter are obtainable) in addition to the staple fruits. Combined with the diet should be an extensive program of exercise. Weight-lifting is particularly recommended as a means of putting healthy flesh on the thin body. It is perhaps the best body developer known. Sunbathing is also of much value; in fact, it alone has often been responsible for appreciable gains in weight by underweight patients. The combination of fasting, natural diet, execise and sunbathing is necessary, however, for the most rapid results.

COSMETICS

With your health built to a high level, with your possession of an abundance of vitality, and your figure just right—not too heavy and not too light—you will possess the maximum degree of beauty. Then will come the question of cosmetics. You will have to decide whether to use the numerous artificial aids of beauty which are heralded far and wide, by advertiser and beauty experts alike, as indispensable for the most comely appearance.

Of the billion dollars spent annually for cosmetic and beauty treatments in the United States, many millions are spent for preparations which are harmful, irritating, and in many cases, poisonous. Lotions, creams and hair-dyes frequently contain fatal poisons such as arsenic and lead as well as many irritants, including corrosive sublimate, salicylic acid and carbolic acid. Arsenic, lead and bismuth are common ingredients of many face powders. Corrosive sublimate is often found in mole and freckle lotions.

Present federal laws do not forbid the use of poisons in cosmetics. The Federal Trade Commission often stops manufacturers from advertising their poisonous products as "safe" but that is as far as it goes. It has no jurisdiction over the sale of cosmetics. An injunction from the Trade Commission is simply an incentive for the copy-writers to invent an array of poetic phrases meaning "safe" which are not covered by law.

Hair-dyes are among the worst offenders in the field of cosmetics. Clever advertising has given the public the impression that these products are perfectly safe. For instance, the manufacturer whose product contains only poisonous lead acetate will boast that it is free from nitrate of silver, paraphenylendiamin. The manufacturer may parade the fact that it is free from lead, sulphur and silver. The copy-writer can always devise the most effective means of misleading the beauty-seekers, and at the same time remain beyond reach of the clumsy fingers of the law.

It may be said that the poisons in cosmetics are not absorbed by the body, but the facts do not bear this out. Medical records show clearly that the most severe toxic symptoms, including blindness, abdominal pains, vomiting, nausea, substernal pain, loss of hair, and facial swelling followed by disfigurement have resulted from the use of various cosmetics. Naturally these symptoms do not always occur; their presence is the exception rather than the general rule. Most people absorb the poisons very slowly, so slowly in fact, that they never realize they are being poisoned. The pathological symptoms require years of gradual development. When the stage is reached where they can be detected by diagnosis, they are ascribed to bacteria, imaginary virus or some unknown cause.

There are of course some brands of cold cream, face powder and other cosmetics which contain no poisonous substances. The preparations of the Elizabeth Ardens, the Helena Rubensteins and the Dorothy Grays, together with those found in health food stores, are most likely to be compounded of safe ingredients, though no blanket endorsement of them can be given. They are, at best, harmless; their supposed hygienic and curative values are purely imaginary.

The use or non-use of the non-poisonous cosmetics cannot be decided by the Hygienic system. Whether or not cosmetics such as lipstick, face powder, rouge and mascara add to beauty is purely a matter of opinion and is developed upon the custom and tradition of a given people at a given time. The branch of aesthetics which deals with cosmetics is not a science, but it is rather the product of advertising and conventions.

It may be added however, that no amount of external treatments of applications can render beautiful the women whose ill health has impaired the appearance of eyes, hair, skin, teeth and figure. Even the American, who has been taught to appreciate painted faces, speaks with poetic delight of the unsurpassed beauty of the Polynesian women with their perfectly clean faces. If there is a need for cosmetics, it certainly diminishes as the degree of natural beauty increases. The modern beauty shop can provide no substitute for the beauty that comes from good health. It can only enrich this beauty in accordance with the popular tastes of the day.

The newer knowledge of hygiene gives people opportunities for beauty which they never had before. It permits the creation of a race whose normal possession is real beauty. In your own case it means much. By living a hygienic life you can improve your own appearance; you can be more attractive than you have ever been. True beauty comes from within; it is largely determined by the chemistry of the body. That is the fundamental thing to remember.

In the final analysis, we must regard beauty, health and youth as closely related. To the extent that you preserve one you also preserve the others. The uncooked fruitarian diet, sunshine, exercise, fresh air, fasting if necessary, and abstinence from drugs, vaccines, serums and other toxins—these are the prime requirements in your attempt to preserve your youth, health, and beauty as long as you can. The hygienic mode of living will permit you to be healthy and happy in your old age. It will provide you with a strong, well formed body, free from disease, even as you approach the proverbial three score and ten mark. You will change a little in appearance as the years roll by, but you never need become so feeble and decrepit that you have lost all of your natural beauty. The Hygienic system offers you the closest possible approach to the fountain of youth, the only method of living which can remove, once and for all, the ravages of senility.

You have one of two roads to follow. One leads to disease, early senility and the early loss of beauty. The other leads to superb health, a long life, a prolonged period of youth and a higher degree of beauty. Which will you choose? Upon your decision rests the future course of your life.

CHAPTER 22

Eugenics and the Survival of the White Race

by Ben Klassen, P.M.

The CHURCH OF THE CREATOR deems it extremely important that if we want the White Race of the future to be more healthy, happy and intelligent that we must also look to our genetic health. If we want healthier children (and adults) we must stop the breeding and proliferation of genetically diseased derelicts. We all know that like begets like, and scum begets scum. Now healthy, beautiful and intelligent parents may not always reproduce children that are exact replicas of themselves, but by the law of averages they are going to have children that are similar to themselves, some even superior, some not. Similarly, idiots, misfits, mental and physical cripples, the genetically diseased, are going the reproduce more of their tragic ilk to plague not only the present society, but also future generations.

Unfortunately, as I have pointed out in the WHITE MAN'S BIBLE (and also in NATURE'S ETERNAL RELIGION) present day society is so geared and structured that the inferior are encouraged to far outbreed the superior, and the mud races to far outbreed the White Race. The Jewish power establishment wants it that way, and does everything in its considerable power to make it happen. (See Chapters 26, 27, 28, and 41 of The WHITE MAN'S BIBLE). In past centuries (before welfare and subsidization became the monsters they are today) there was a natural curb on the proliferation of the inferior. Whereas they could breed, their proliferation was strictly limited by their inability to feed themselves. As a result the niggers of Africa, for instance, never increased their numbers over thousands of years. This degenerate black population of the African continent stabilized at the starvation level and stayed there. The ability (or inability) to produce food was the limiting curb. Until the advent of the White Man their numbers changed very little and for a huge continent fabulously rich in natural resources it supported a relatively small population. Furthermore, that population, by our standards lived continuously in dire poverty with the spectre of starvation perpetually stalking the land.

The advancing technology of the White Race changed all that, both at home and abroad. With new inventions created by the genius of the White Man a single farmer could now feed 50 families whereas a few centuries ago he could feed perhaps two at most.

Now we are all proud of the genius of the White Man and the multitude of marvelous inventions his creative mind has produced. We are proud of such geniuses as Leonardo di Vinci, who was far ahead of his time; of Edison who dedicated most of his adult life to producing hundreds of inventions; of James Watt, who produced the first steam engine; of Henry Ford who revolutionized manufacturing techniques and put America on wheels; of Robert Fulton who built the first working steamboat; of Robert McCormick who produced the first horsedrawn reaper and thereby tripled the productivity of the average grain farmer. We are proud of Daimler, Diesel, Marconi, Morse, Bell and hundred, yes, thousands of geniuses who have contributed tremendously to the advance of our civilization and culture.

The one overiding observation about all these geniuses is that they were White--members of Nature's Elite—the White Race.

As I have stated in the introductory pages of this book, the underlying goal of our four dimensional religion, CREATIVITY, is a Sound Mind in a Sound Body in a Sound Society in a Sound Environment. In order for us to live a happy, healthy and productive life, it is not enough to strive for physical health. In any case, even physical health is impossible if any of the other three factors is absent.

You cannot pursue health and happiness if your mental condition is deranged. You cannot stay healthy nor happy for long if the society you live in is in turmoil and chaos. For instance, how long could a healthy intelligent White family survive if it lived in the middle of Harlem? Not long. It would be robbed, attacked and soon murdered by the unruly black animals surrounding it. Supposing such conditions spread nation wide until we had wall-to-wall niggers. How long could White families survive under such conditions? And finally, there is the environment. How can anyone successfully pursue Salubrious Living if our air, our water, and yes, the overwhelming proportion of our food is polluted with poisonous chemicals?

The answer is no one can survive under such conditions, much less live in peace, health and happiness unless and until all four of these basics of our religious creed are in order. In CREATIVITY we stress the TOTAL SOLUTION—the whole ball of wax. We do not waste our time fiddling with trivialities, or berating effects. We go after the basic causes, and then seek to correct the cause, not chase after effects.

In CREATIVITY I believe we have the TOTAL PROGRAM, the FINAL SOLUTION, the ULTIMATE CREED.

In this book we have so far fairly covered thoroughly three of the major aspects of our four dimensions. We have covered the conditions for mental health (a Sound Mind) the means of attaining and sustaining superior physical health (a Sound Body) and what we must do to maintain a clean and viable environment, although this last problem is treated much more thoroughly in The WHITE MAN'S BIBLE (Chapters 13, 14, and 15). In both NATURE'S ETERNAL RELIGION and The WHITE MAN's BIBLE we deal extensively with the structuring and building of a Sound Society. So many chapters are devoted to this in both books that we will not even separate them here.

* * *

What we want to emphasize in this last chapter of this book is something very few books on health dare to mention at all—and that is Point N° 14 of SALUBRIOUS LIVING, namely the subject of Eugenics. Without a conscious understanding of, and adherence to its laws; unless we are dedicated to the unflagging practice of its principles, everything else eventually breaks down and for the White Race ends up in a tragic catastrophe of gigantic dimensions.

What do we mean by Eugenics? Basically it means racial health. All species of Nature practice it instinctively. All species, whether it is a herd of buffalo, or deer, or caribou, or a flock of ducks, do basically two things to keep the genetics of the herd or the flock healthy: (a) There is a continuous culling out of the misfits in order to improve the genetic quality of the herd or the flock (survival of the fittest), and, (b) They do not interbreed with another similar species, no matter how closely related that species may be.

Let us examine the process of "culling the herd" first. Nature is continuously urging each species to upgrade itself so that it is better fitted to meet the competition in the fierce battle for survival. Nature does not necessarily view one species more desirable than another, whether it be a shark, or a cat, or a deer or an eagle. To Nature there are no favorites. Each is equipped with certain attributes, certain tools, certain advantages and disadvantages for its own survival and expansion. How well each creature uses these attributes is up to its own discretion in the fierce struggle for survival.

Nature is ruthless in the application of its laws. It is completely indifferent as to which individual survives, or which species survives. Nature punishes with extinction those species, which, although suitably equipped, were not vigorous enough, or too sluggish in the struggle for survival on the face of this planet. As we look back on geological and biological history of the past we find that such creatures as the dodo and the dinosaur are now extinct, as are millions of other species now inbedded in ancient rock as nothing more than fossils.

Therefore each species either shapes up or ships out, as the saying goes. Those species that are still around vigorously practice eugenics instinctively and are subject to numerous culling practices. For instance, in a herd of buffalo, a deformed calf will usually be butted to death by other calves, or even adult buffalos. To the bleeding hearts of the present liberal generation this may seem cruel. But actually, the butting calves are doing the herd a big favor. By culling out the misfit they are preventing it from growing up and prepetuating its defective genes into the gene pool of the herd. They are preventing the proliferation of deformed and crippled buffalos in their herd of the future and thereby its degeneration and eventual extinction.

Helping this culling process are a number of predators such as wolves, coyotes or cougars that may be stalking the fringes of the herd. They, too, contribute immensely to the health of the herd and are directly involved not only in the survival of the predators, but also in the survival of the buffalo herd. By attacking and pulling down the slow, the sickly, the sluggish and the weak they are culling out the genetic undesirables and thereby keeping the herd viable and sound and more capable in meeting the challenge of survival.

Now we come to point (b) in the process of Eugenics, namely keeping the species pure. Just as Nature frowns on cripples and misfits and ruthlessly punishes them with extinction, so Nature also frowns on bastardization of the species, any species, whether animal, bird or human.

When I was a kid, I was brought up on a farm in Saskatchewan. A few hundreds yards below our barn was a slough of water, about a mile long, and I spent many happy summer days rafting on it.

Now this slough happened to be a favorite nesting area for many species of wild ducks who flew north for the summer to breed and usher in the next generation. Among these I had the opportunity to observe many different species of ducks--pintail ducks, teal ducks, canvasback ducks, mallard ducks, mud hens, hell-divers and others that I could not identify. There is one cogent lesson I learned from all these different species and it is this: Whereas they all belonged to the duck family each sub-species mated only with its own, pintails with pintails, canvasbacks with canvasbacks, teal with teal, etc. Never did they interbreed, never was there any miscegenation despite the fact they were all ducks and despite the fact that they all nested in the same pond. Nature hates bastards. Whereas domesticated animals (having too long been guided by, and interdependent on their human masters) have long lost their identity and the instincts of a pure species, the creatures of the wild have not and will faithfully abide by the laws of Nature. I repeat—Nature hates bastards. Nature frowns on micegenation and ruthlessly relegates to the scrap heap of evolution those species which would arrogantly violate her laws.

We now come to the human species and focus particular attention on the White Race with whose welfare CREATIVITY is exclusively and solely concerned. After setting forth the goals and objectives of Creativity in the first chapter of the WHITE MAN'S BIBLE we lay down a hard and fast principle in the second chapter, namely we are concerned basically with the survival, expansion and advancement of the White Race. Everything we say, every opinion we express is through the eyes of the White Race. The White Race is the supreme yardstick by which we measure all things. Why? Because we ARE the White Race and Nature imposes upon us the same demands and the same laws as on every other creature—and that is: LOOK TO THE SURVIVAL AND WELFARE OF YOUR OWN KIND.

Nature, however, has done more than that for the White Race. In fact, it is on the White Race that she has lavished her most generous gifts. On no other creature in all the billions of years life has existed on this earth has Nature so generously dispensed as much INTELLIGENCE, CREATIVITY and PRODUCTIVITY AS SHE HAS ON THE White Race in just the last instant of geologic time. No other creature has occupied such predominance, such exclusiveness, so much control over its own environment and the destiny of other creatures as has the White Race in modern times. Without doubt, in the White Race Nature has produced her highest creature, her Elite, with no even near rivals.

As with all other creatures, Nature has clearly told us, the White Race, the following: "What you do with your gifts and talents is strictly up to you. Whether you survive or not as a species is strictly up to you also. Whether you squander or abuse these precious gifts I have given you, that, too, is up to you. But I can promise you this: If you don't use these unusual attributes and advantages for your own survival and upgrading, I will relegate you too to the scrap heap of evolution. It is up to you. I am completely indifferent whether you survive or not".

The tragic fact of history in this last quarter of the twentieth century is that the White Race is not using its precious gifts, its astounding advantages, its unique intelligence, for its own best interests.

Whereas there is no creature in geologic history that we know of that ever was dumb enough to say to an inferior species: "Since you are weak, stupid and sluggish, we will subsidize you. Since you are having a hard time, we will hold back on our own species, we will divert our food, labor and talents from our kind to yours so that you can multiply and crowd us off the face of the earth. We will even go further. We are so insanely generous, we will mix our genes with yours to help upgrade yours, although this will mean our own extinction."

No, in this respect no creature has ever taken such a dumb stance as has the White Race. It may be the most creative, the most intelligent creature in technology, science, literature, arts and many other fields of endeavor that go to make up civilization–but when it comes to looking to its own survival, its own upgrading of its species, keeping its own genetic health, to the recognition of its natural enemies—in all these most vital aspects the White Race has most flagrantly flouted all of Nature's laws and is more stupid than the lowly mud hen I observed on our slough in Canada. And for this flagrant violation the White Race is beginning to pay dearly. If it does not soon change its course, Nature will exact its final punishment on the White Race—Extinction.

This is as certain as the extinction of the dodo and the dinosaur and this process is crashing about our ears at astounding speed. In fact, when we look at the multi-million year survival span of other species, the White Race might have one of the shortest tenures in biological history.

It is not my objective here to re-capitulate the basics of Eugenics. This I have already covered in The WHITE MAN'S BIBLE and need not be repeated here. The objective in this book is two fold: (a) to set forth a program for superb health and (b) to make each member of the White Race keenly conscious of the fact that a creed, a program and religion exist that serves the WHOLE man, the WHOLE society and the WHOLE environment in order that we may build a better world, a better society, a better race and a healthier, happier and more capable individual.

The rest of the creed you will find in our two basic books, NATURE'S ETERNAL RELIGION and The WHITE MAN'S BIBLE. Read them, study them and re-read them. Then go to work–distribute them, spread the word and help build a better world. Help bring about the greatest blessing ever conceived for mankind in all its tumultuous history:

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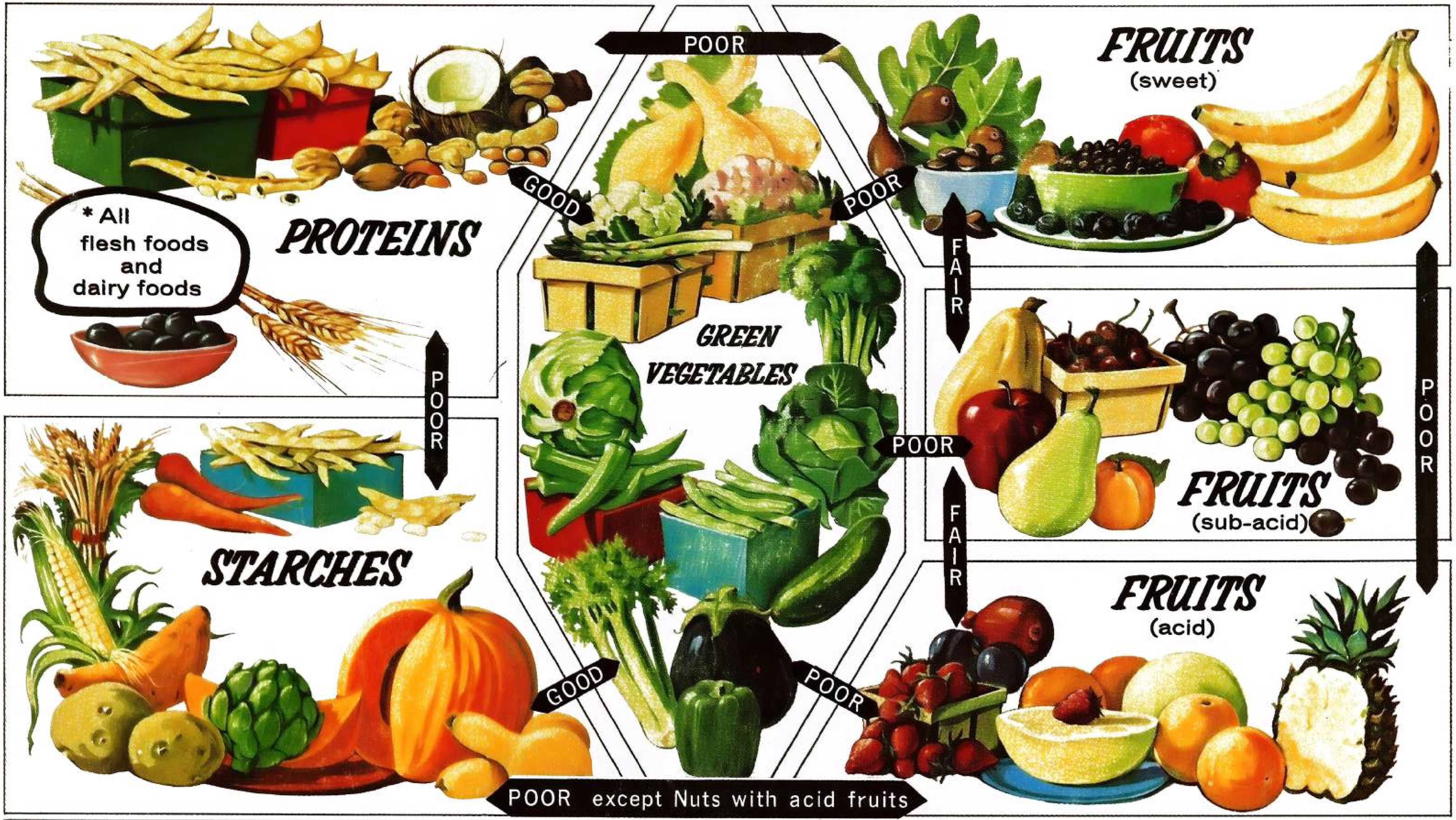
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POOR
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